

Colocation, Edge Computing, and 5G: The Future of Digital Infrastructure

LUC Team 4

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Table of Abbreviations



Table of Abbreviations							
AI	Artificial Intelligence	EBITDAR	Earnings Before Interest, Taxes, Depreciation, Amortization, and Rent	IPO	Initial Public Offering	REIT	Real Estate Investment Trust
APAC	Asia Pacific	ECX	Equinix Cloud Exchange	IT	Information Technology	ROA	Return on Assets
AVG	Average	EEA	European Economic Area	LLP	Limited Liability Partnership	ROIC	Return on invested Capital
AWS	Amazon Web Services	EMEA	Europe, Middle East, and Africa	LTM	Last Twelve Months	R&C	Racks and Cages
BFSI	Banking, Financial Services, and Insurance	EPA	Environmental Protection Agency	LTY	Last Ten Years	R&D	Research and Development
Bn	Billions	EPS	Earnings Per Share	MCDC	Major City Data Center	SA	South America
BCR	Binding Corporate Rules	EQIX	Equinix	ML	Machine Learning	SaaS	Software as a Service
CAGR	Compound Annual Growth Rate	ESG	Environment, Sustainability, and Governance	MM	Millions	SCC	Standard Contractual Clause
CCP	Chinese Communist Party	EU	European Union	MRR	Monthly Recurring Revenue	Sf	Square feet
CEO	Chief Executive Officer	EV	Enterprise Value	MW	Mega-Watts	SEC	Securities exchange commission
CFO	Chief Financial Officer	FCF	Free Cash Flow	M&A	Mergers and Acquisitions	SM	Social Media
CIO	Chief Information Officer	GDPR	Global Data Protection Regulation	NA	North America	SLA	Service Level Agreement
CS	Colocation Services	GIC	Government of Singapore Investment Group	N/A	Not Applicable	TAM	Total addressable Market
CDN	Content Delivery Network	GRC	Governance Risk Compliance	NRSF	Net Rentable Square Footage	TM	Trademark
CHIPS	Creating Helpful Incentives to Produce Semiconductors	GPM	Gross Profit Margin	NTM	Next Twelve Months	TMR	Total Market Revenue
DC	Data Center	HW	Hardware	N.Y.	New York	TRS	Taxable REIT Subsidiary
DCF	Discounted Cash Flow	IaaS	Infrastructure as a service	OI	Operating Income	TV	Terminal Value
DDoS	Distributed Denial of Services	IBM	International Business Machines	PGIM	Prudential Global Investment Management	USA	United States of America
DGX	Data center GPU Exchange	IBX	International Business Exchanges	PoP	Point of Presence	VPN	Virtual Private Network
DLR	Digital Realty Trust	IDPS	Intrusion Detection and Prevention System	PPA	Power Purchase Agreement	USD	United States Dollars
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization	IoT	Internet of Things	QC	Quantum Computing	WACC	Weighted Average Cost of Capital
EBIT	Earnings Before Interest and Taxes	IPL	International Privacy Law	REC	Renewable Energy Certificates	WAN	Wide Area Network

Executive Summary

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A photograph of a modern building with a glass facade and a semi-transparent text box overlaid on the left side. The building has a tall, narrow glass section on the left and a larger, more complex glass section on the right. The text box is white with a thin black border and contains the text "Executive Summary" in a large, black, sans-serif font. The background shows a clear blue sky and some greenery on the left and right sides.

Executive Summary

Executive Summary



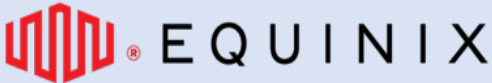
Who should IBM acquire?...

Structure

Valuation

Feasibility

IBM should **NOT** acquire...



❖ Equinix is a **retail** data center REIT that provides **server rental** and colocation services to cloud providers, businesses, and networks

❖ **Market cap** ≈ **\$86.11 Bn**
Price per NRSF ≈ **\$2,889.60/Sf**

- I. IBM has **\$56.5B** in debt and cannot afford to finance this acquisition, would risk **a credit downgrade**
- II. Acquisition could **NOT** result in **less than 35% dilution** without incurring **> \$40 Bn in debt**
- III. Equinix acquisition would be **more than double** the previous largest acquisition in IBM history

IBM **should** acquire...



❖ Digital Realty is a **wholesale** data center REIT that provides data center **rental space** and colocation services to cloud providers, businesses, and networks

❖ **Market cap** ≈ **\$46.68 Bn**
Price per NRSF ≈ **\$892.54/Sf**

- I. The market **Undervalued** Digital Realty by 40.5%
- II. Acquisition would result in **17%** less debt and **≈50%** of the dilution
- III. Digital Realty acquisition would be **similarly sized** to previous largest acquisition in IBM history



Industry Overview

Data Center Industry Analysis

Growing markets in the Southern Hemisphere



Data Center Market Comparison

Established Markets

Growing Markets



Demand in NA continues to increase from its already globally high point. Clients seeking out scalability, reliability, and high bandwidth often look to NA. The projected CAGR for NA is 10.09% with notable hotspots in Northern Virginia and Silicon Valley regions.



Clients in Europe emphasize quality and reliability in terms of DCs. A steady increase in consumption in recent years paints a bullish outlook for 2024, with an expected CAGR of 7.96%. DCs in Europe are increasingly attractive as the diverse network of regulatory laws encompassing the multitude of countries creates tax and regulation havens in certain regions.



An Asian surge in demand has fueled increased usage, rack space, and revenues, a trend that is expected to continue into next year. The continent should see a CAGR of 12.43% in 2024. The spearheads of China and Japan are the second and third largest DS houses, only behind the U.S.

*Possible overestimates by the CCP may misrepresent profitability.



An increased demand in cloud services and a heightened awareness of digital transformation regarding AI application coupled with lax trade laws has led to significant growth in SA in recent years. While central infrastructure makes DC construction difficult, motivation is high to increase the supply of DC services in the region. An expected CAGR of 6.57% is forecasted to affected revenues in 2024.



The region has seen steady economic growth alongside a rise in urban populations making demand quickly on the rise in this region. A rough landscape and varying levels of development along with a lack of infrastructure in certain regions require customized solutions. Africa is expected to be affected by a CAGR of 7.14% in 2024, most growth occurring in the South African cities of Cape Town and Johannesburg.



A growing economy combined with government initiative fuels revenue growth in Australia and Oceania leading implementation of new, green DCs made possible by the region's emphasis on sustainability. The distances between nations poses a unique challenge to providers, who have invested in building a more connected network. Positive market outlook paints a CAGR of 6.11% in 2024.

Key Challenges for 2024

Lack of Space	Safe, low rent, easy access locations are uncommon in 2024 as they are often preoccupied. Lack of build sites makes new DC construction and horizontal expansion difficult. More so, higher rent costs in NA further the difficulties of DC construction. Outdated DCs cannot handle the power demand and in recent years, as the demand for generative ai has soaked up the current available DC space. Cooling processes have become more difficult as rack space has become more concentrated and bandwidth demands have increased.
Energy Limitations and Sustainability	The demands incurred by new computing methods has put strain on the DC energy infrastructures. It is estimated that the global energy demands in this industry will double by 2028. Outdated grids in markets such as Europe and NA limit growth as improvements would require tremendous investments from outside sources. In some cases, grid operators have resorted to partial shutdowns in times of higher demand. Furthermore, geopolitical factors have given rise to an emphasis on low carbon emissions and renewable energy. Sustainable operations require further expansion and funding, putting even more strain on a market with already inhibited growth.
Labor Shortage	Global labor market troubles are reflected withing the DC industry. Finding and retaining engineers who can build and maintain the infrastructure needed is and has been difficult. Constantly advancing hardware requires constant training. Individuals with specialized skills can become useless as technology advances. Expansion within the industry strains the already limited supply of workers. Finding the funding to hire and train workers constantly puts financial strain on the companies operating these centers.

Source: (IBIS World, 2023), (Statista, 2023)

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Geographic Spread of Data Centers

Uneven distribution within regional markets

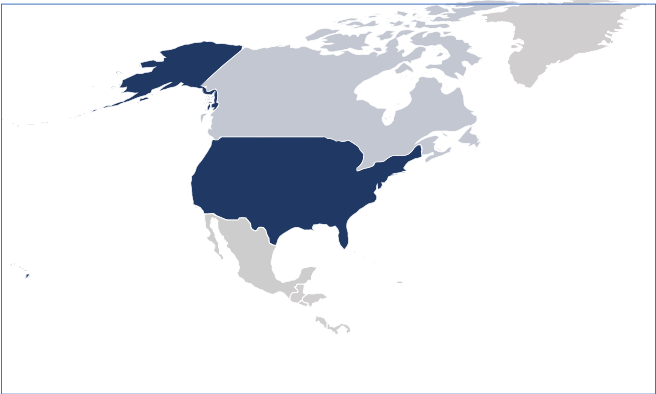


Americas

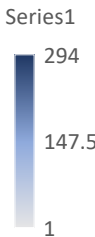
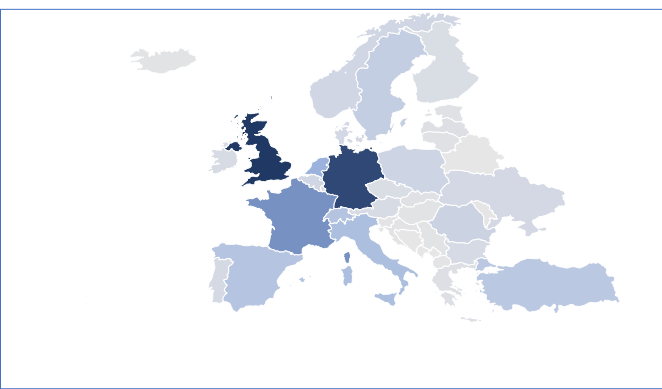
EMEA

APAC

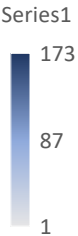
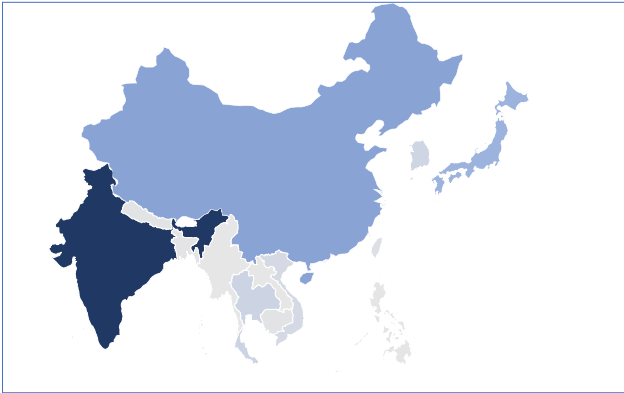
North American MCDC



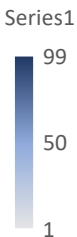
European MCDC



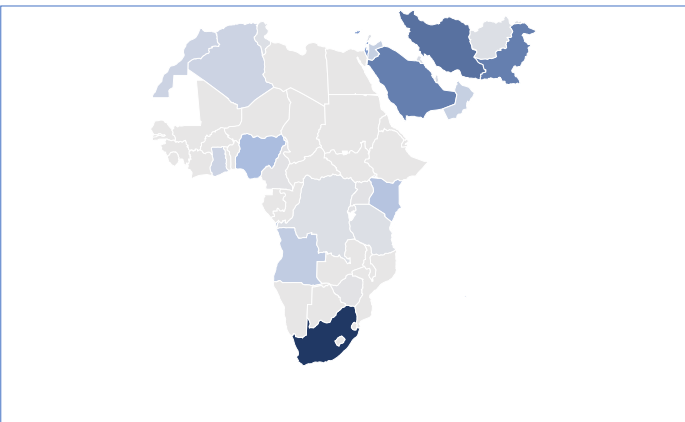
Asian MCDC



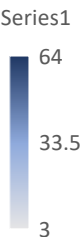
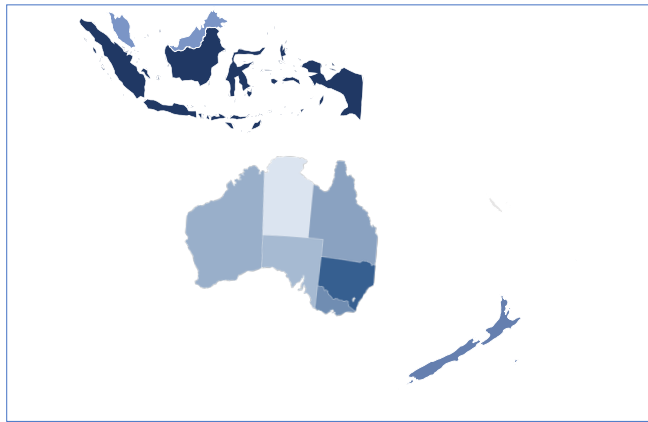
South American MCDC



African & Middle East MCDC



Australian & Oceanian MCDC



Source: (Statista, 2023)

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Data Center Industry Outlook and Trends

Positive growth in all major end markets



DC End Market	General Trend (2022-2023)		2024 Outlook	TAM
 Financials			Financial transactions require continuously larger amounts of data storage. An increasingly digitized marketplace requires a larger volume of data centers to accommodate for the growing nature of the industry.	\$25 - \$30 Trillion 7.5% - 9.5% CAGR
 Healthcare			The healthcare industry continues and will continue to generate sizable amounts of data. Estimates say this industry alone generates 30% of data , a number that will increase to 36% in coming years .	\$7.5 - \$11 Trillion 5.5%-8% CAGR
 IoT			The Internet of Things has been on the rise for years . As the number of devices on the market increases, so will the amount of data. DCs must adjust in order account for the new types of data . High levels of performance as well as reliability are crucial for the growing sector.	\$300 - \$320 Billion 16.5% - 17.5% CAGR
 Industry Solutions			Industry solutions across the board have been changing in recent years. Implementation of AI and machine learning expand the capabilities of firms. However, as these solution improve, so does their need for accessibility and security.	\$37 - \$40 Billion 5.5% - 8% CAGR
 Customer Service			As the implementation of AI usage in customer service increases, the DC supply must adapt. With the development of conversational models, demand for bandwidth and reliability are vital .	\$10 - \$12 Billion 9.5% - 12% CAGR

Source: (Decipher Market Research, 2023), (Yahoo Finance, 2023), (Statista, 2024), (Growth Market Reports, 2024), (McKinsey, 2023), (Precedence Research, 2023), (Verified Market Research, 2023), (Fortune Business Insights, 2023), (Markets and Markets, 2022), (The Business Research Company, 2024), (DataBridge Market Research, 2023), (Market Research Future, 2024), (Globe Newswire, 2023), (Zion Market Research, 2023)

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Real Estate Investment Trusts

Tax benefits and structural restrictions



For a company to qualify as a REIT:

- ❖ **Invest** at least **75%** of total assets in real estate, cash, or U.S. Treasuries
- ❖ Derive at least **75%** of gross income from **rents**, interest on **mortgages** that finance real property, or real estate sales
- ❖ Pay a minimum of **90%** of taxable income in the form of shareholder **dividends** each year
- ❖ Be an entity that's **taxable as a corporation**
- ❖ Be managed by a **board** of directors or trustees
- ❖ Have at least **100 shareholders** after its first year of existence
- ❖ Have **no more than 50%** of its shares held by five or fewer individuals

- [Investopedia.com, 2023]

More than 70% of the world's data centers are REITs

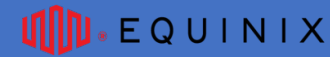


REITs are publicly traded as a mutual fund



Examples of REITs

Data Centers



Self-Storage



Timberland



Retail



Data Centers are Commonly Structured as REITs

(Real Estate Investment Trusts)

A REIT is a publicly traded, income producing, real estate project that has specific rules they must follow to be eligible to be filed as such. These rules allow REITs to avoid corporate level taxes, but most income must be distributed as dividends.

Source: [Investopedia, 2023]

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Colocation Service Overview

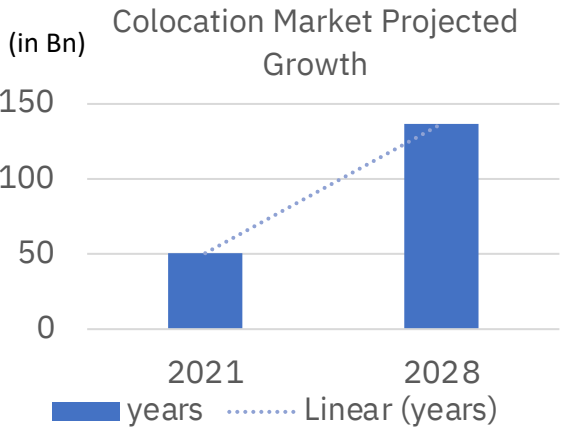
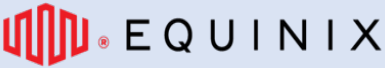


Colocation services bridge the world of data and scalability

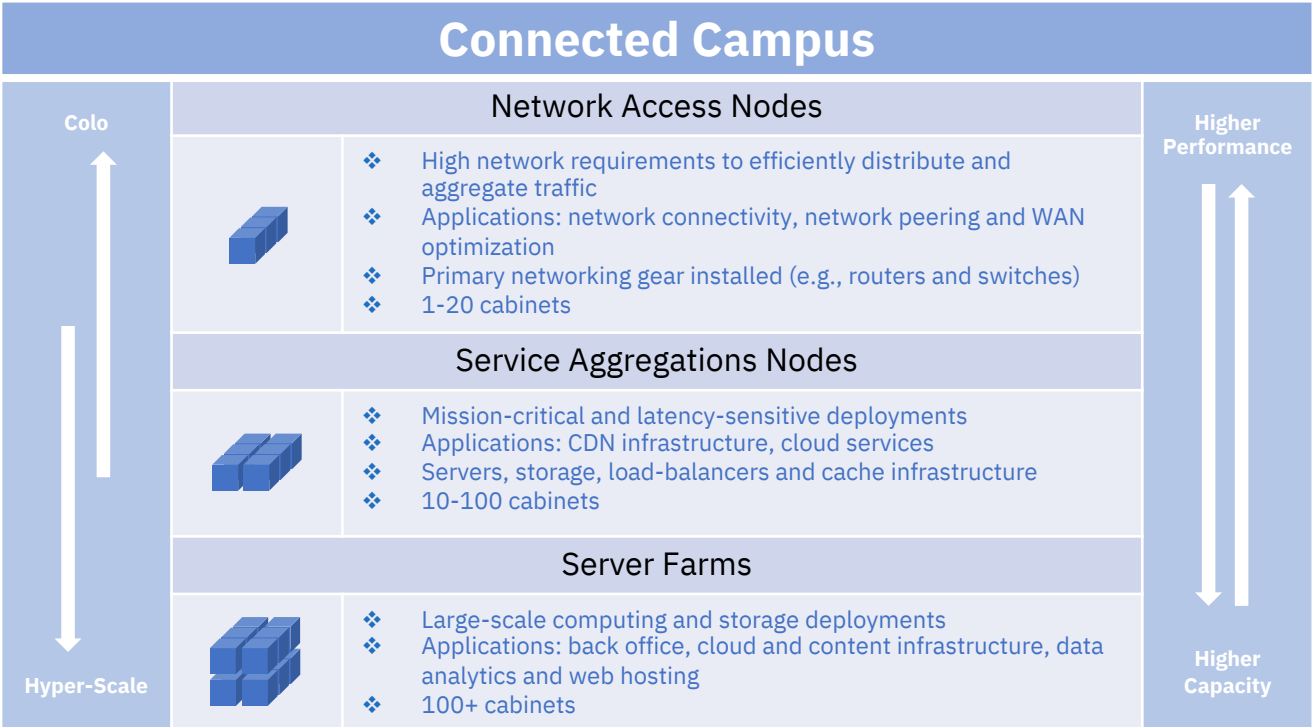
Colocation Market

Size: ❖USD \$69.3B	NA Market Revenue: ❖USD \$27.1B	Forecasted CAGR: ❖11.5% (2023-2032)	2032 Value Projection: ❖USD \$212.8B	End Users: ❖BFSI ❖Healthcare ❖Energy & Utility ❖IT & Telecom ❖Retail & E-Commerce	Market Share: ❖Equinix Inc. ❖Digital Realty Trust ❖NTT Communications ❖China Telecom Corp.
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Top 3 Most Data Centers:



Connected Campus



Benefits	Exponential growth	Critical for AI	Needed for Quantum Computing	Needed by all companies	Low threat of new entrants
Challenges	Scarcity of Qualified Labor	Lack of space	Energy costs	Sustainability convers	Natural disasters

Source: (Global Market Insights, 2023), (Straits Research, 2022), (Data Center Knowledge, 2023), (Statista, 2023), (Graphite, 2022), (the Decoder, 2023), (Computer Weekly.com, 2023), (Seeking Alpha, 2022)

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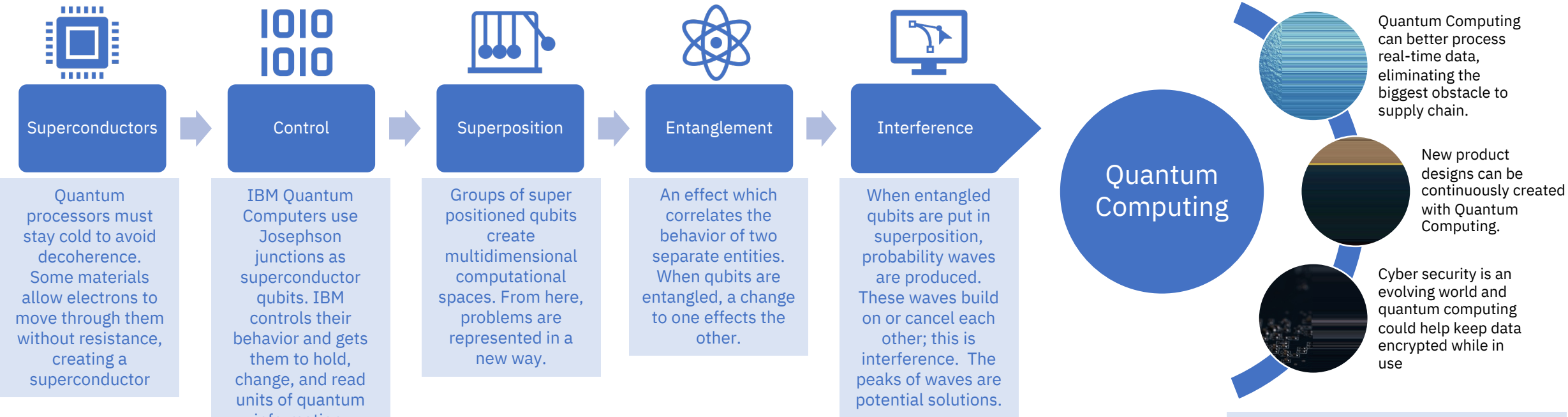
Acquisition Feasibility

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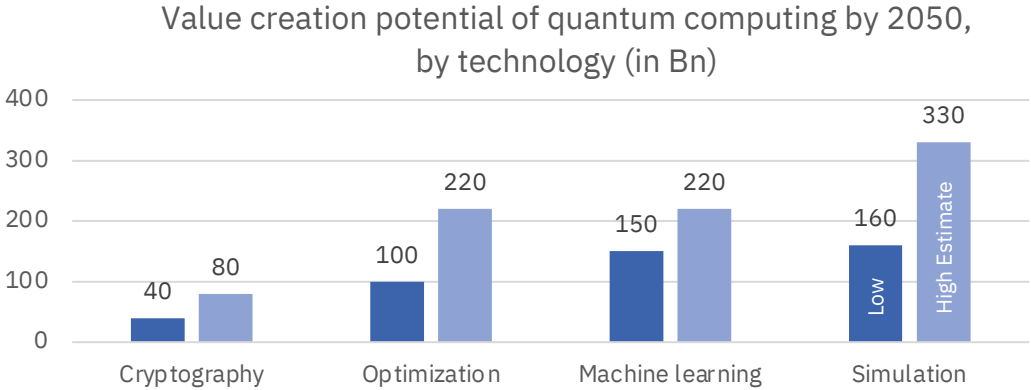
Quantum Computing Overview

The future of computing, applicable to all industries



“Quantum computing uses specialized technology—including computer hardware and algorithms that take advantage of quantum mechanics—to solve complex problems that classical computers or supercomputers can’t solve or can’t solve quickly enough.”

- IBM [IBM.com, 2024]



Quantum computing is the future of IT due to its rapid processing times, regardless of its requirement for immense amounts of storage (Similar to AI). Quantum computing still requires the same amount of processing power as normal computing, it only uses it faster.

Source: (IBM, 2024). (Tech target, 2023)

Company Analysis



EQUINIX

IBM+  **EQUINIX**
Strategic Fit



www.ibm.com/ca

www.ibm.com/ca

IBM Overview

International Business Machines



IBM's Identity:

- ❖ IBM is a multinational technology company founded in 1911 headquartered in Armonk, N.Y. They are currently a leading provider of global **Hybrid Cloud** and **AI**, along with a team of **consultants** aimed to enhance business experience.
- ❖ IBM Is looking to expand on their new AI, **watsonx™**, by acquiring data centers to expand its capabilities and spread its usage to the parts of the world that IBM lacks data centers. **IBM's Quantum computing** is extremely powerful, it can be used to enhance pre-existing data centers with IBM's infrastructure.
- ❖ IBM is best known for its **hardware** and **software** products such as: computers, servers, storage systems and networking equipment.
- ❖ To implement their products, IBM has established a team of **consultants** to help companies utilize their technology and business services. These services include, cloud computing, data analytics, and artificial intelligence.
- ❖ IBM is an expansive company that spends its' designated **\$6.78 Bn** on research, development, and manufacturing of semiconductors, mainframe technology, artificial intelligence, and quantum computing.

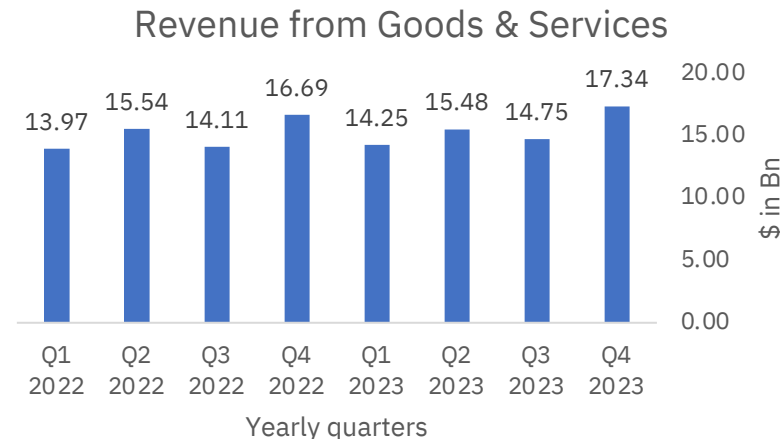
"Europe has some of the world's most advanced users of quantum computers, and interest is only accelerating with the era of utility scale quantum processors,"

**-Jay Gambetta,
Vice President of IBM Quantum (IBM, 2023)**

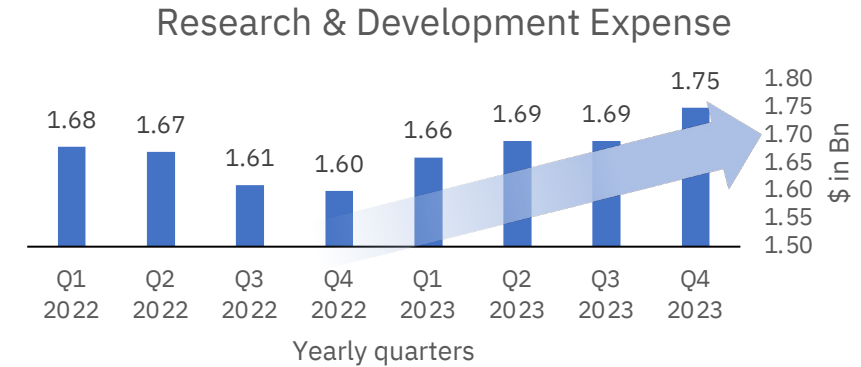
Due to an innovative & growing industry...



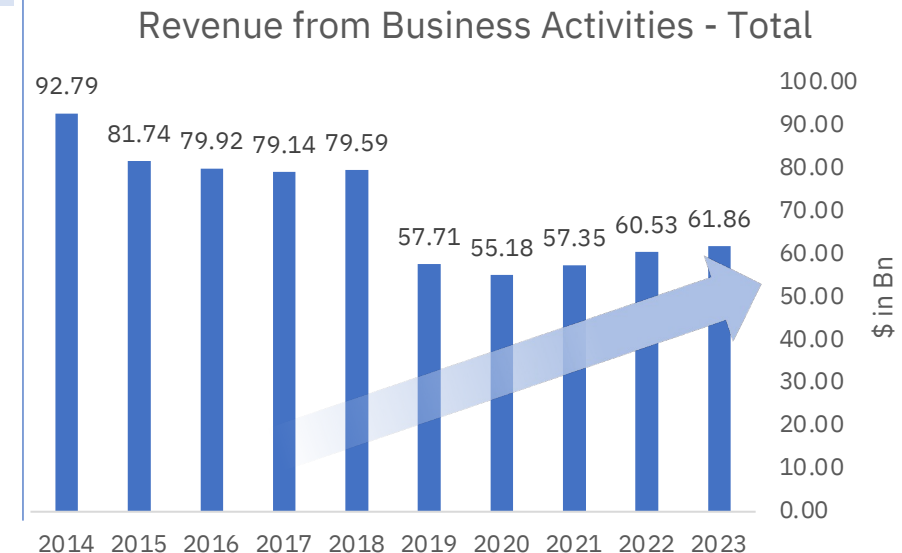
Because of a well distributed portfolio...



...IBM is dedicating \$6.78 Billion in...



IBM has seen marginal growth since 2020...



Source: (IBM Newsroom, 2023)

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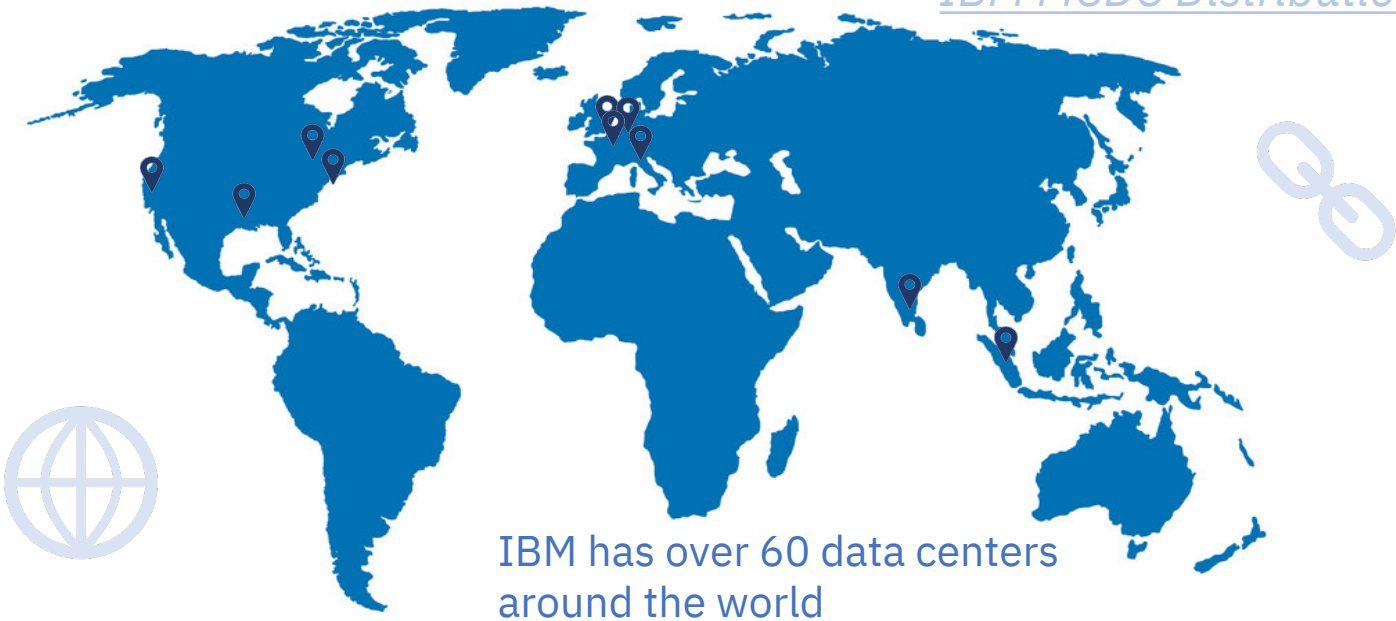
IBM Overview: Data Centers



Small global reach relative to Equinix

Location	Multi-Zone Region	Data Center	Federal Data Center	Network PoP	Location	Multi-Zone Region	Data Center	Federal Data Center	Network PoP	Location	Multi-Zone Region	Data Center	Federal Data Center	Network PoP
Ashburn	✓	✓	✓	✓	Tokyo	✓			✓	Frankfurt	✓			✓
Dallas	✓	✓	✓	✓	Osaka	✓			✓	Madrid	✓			✓
San Jose		✓		✓	Singapore		✓		✓	London	✓	✓		✓
Toronto	✓			✓	Chennai		✓		✓	Paris		✓		✓
Montreal		✓		✓	Sydney	✓			✓	Amsterdam		✓		✓
São Paulo	✓			✓						Milan		✓		✓

IBM MCDC Distribution



IBM's Data Center Regions	Location Breakdown
Americas	Greenland, Canada, United States of America, Mexico, Belize, Costa Rica, El Salvador, Panama, Honduras, Nicaragua, Guatemala, Argentina Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, and Venezuela
EMEA	Frankfurt, Madrid, London, Paris, Amsterdam, Milan
APAC	Tokyo, Osaka, Hong Kong, Taipei, Seoul, Singapore, Chennai, Mumbai, Sydney, Melbourne, Perth

IBM Overview | Software

IBM’s largest revenue source



Software Products:

turbonomic

Performance and cost optimization platform for public, private, and hybrid clouds

SPSS

Allows your organization to quickly extract actionable insights from your data.



Provides a single place for DBAs, enterprise architects and developers to keep apps running

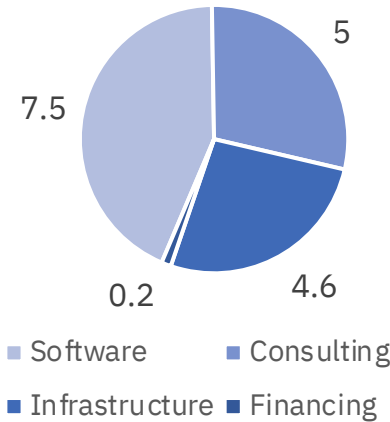
watsonx

An artificial intelligence platform designed to help you overcome the friction of traditional support

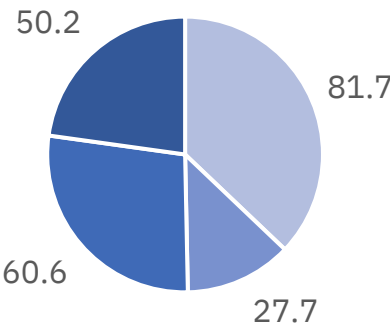
“Our hybrid cloud software offerings are uniquely designed to help you modernize, predict, automate and secure your business by unlocking the intelligence of AI and the agility of hybrid cloud.”

-IBM, 2024

2023 Revenue

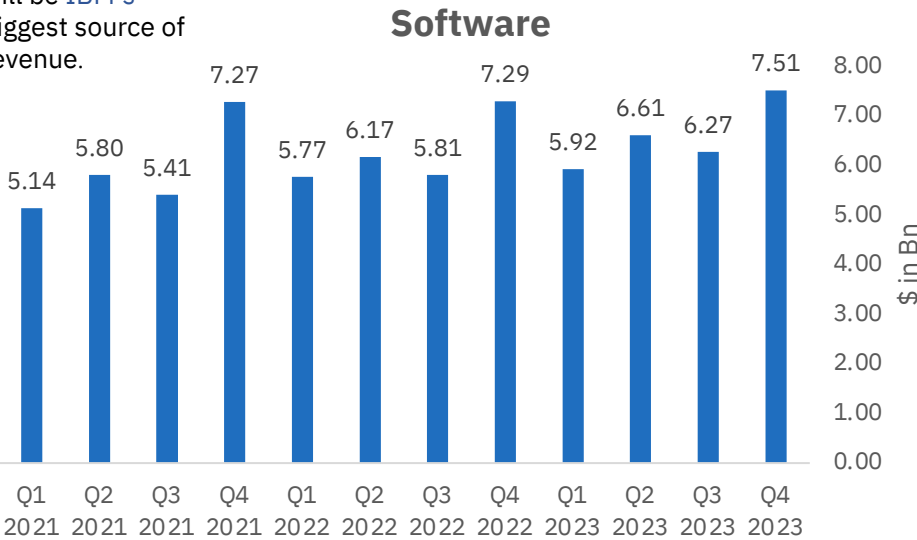


Gross Profit Margin



Increasing company revenue:

Software has and will be IBM’s biggest source of revenue.



Software Segment Overview

- ❖ IBM’s software tears down the tech barrier between companies big and small advertising top of the line applications and systems to the solve the most challenging needs
- ❖ Catering to every industry, globally, their software solutions range from the aerospace to the education industry
- ❖ One of the newest additions to their extensive portfolio is watsonx™, an AI that can provide a multitude of benefits such as app creating and customer service eases companies into the new world of AI integration

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IBM Overview | Consulting

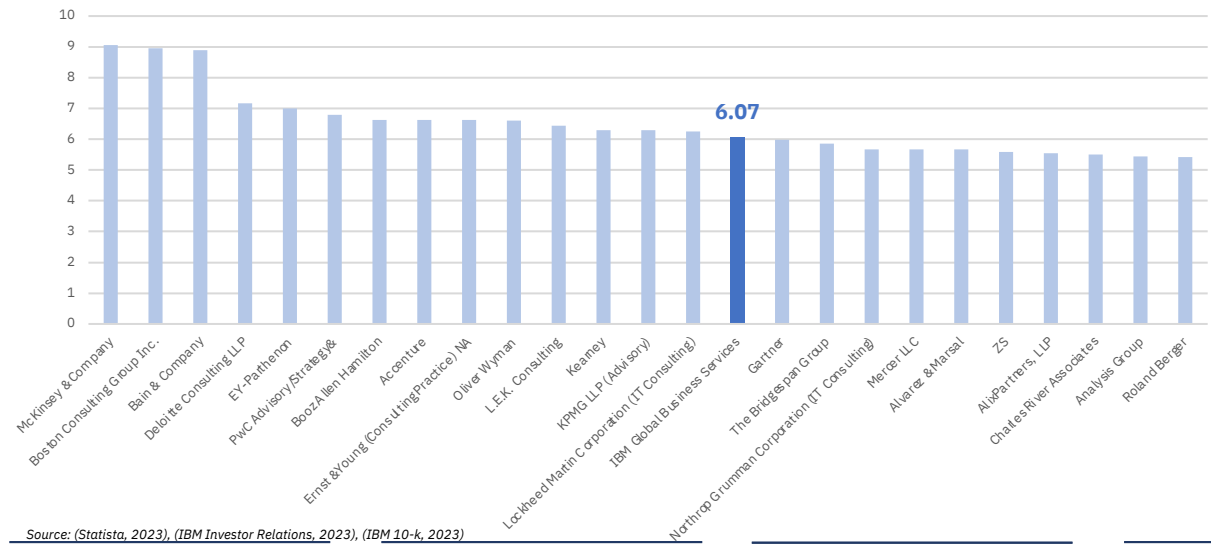


How IBM aids customers

Consulting Segment overview

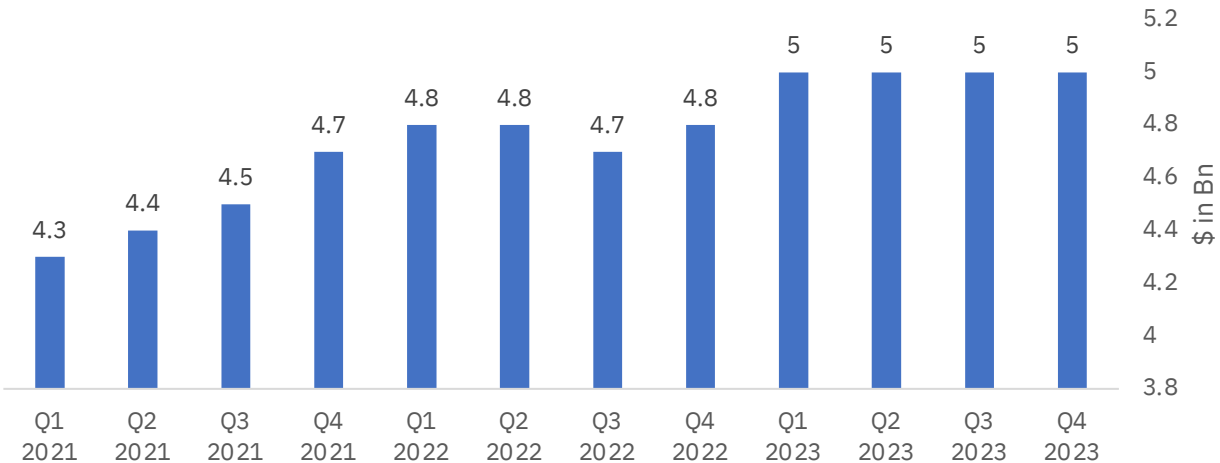
- ❖ IBM's consulting focuses on assisting clients reach their goals, transforming their digital infrastructure with the use of IBM's **hyper cloud** and **AI** technologies.
- ❖ **Hybrid cloud** systems are supported by **Redhat**, a company that provides an open-source software that allows a business' digital infrastructure reliability, security, and adds a vast number of additional features.
- ❖ **Artificial Intelligence** within IBM is attempting a similar approach, employing **16,000** accredited consultants to help support clients with any issues that may arise.

Lead consulting firms in the U.S. 2023, by prestige rating



❖ IBM's consulting revenue: \$5.047Bn (16% increase from Q1 2021)

Total Revenue (Consulting)



IBM Consulting Process

When integrating IBM's services, businesses need IBM consultants' assistance to setup inside IBM's cloud infrastructure.

IBM consultants provide on demand service to its users. The service provided by IBM and its consultants is highly regarded in the consulting world, scoring high on the 2023 prestige rating.

IBM aims to work with the customer to help build, design, and ultimately operate inside IBM's cloud.

Source: (Statista, 2023), (IBM Investor Relations, 2023), (IBM 10-k, 2023)

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IBM Overview | Artificial Intelligence

Past, present, and future of IBM's AI development



A Brief History of Artificial Intelligence

1950

❖ Alan Turing poses the question: "Can machines think?" and offers the **"Turing test,"** where a person attempts to differentiate a human response from a machine one.

1956

❖ The term "artificial intelligence" was coined at the first-ever AI conference, and hence **the first running AI software program** was created.

1967

❖ The first computer based on a neural network that **"learned"** through trial and error was created.

1980

❖ **Neural networks** which use a backpropagation algorithm to train itself became widely used in AI applications.

1995

❖ The book "Artificial Intelligence: A Modern Approach" was published, emphasizing the **ethics of AI** and **the need to align the goals of AI with humanities**

1997

❖ IBM's **Deep Blue beats then world chess champion** Garry Kasparov, in a chess match (and rematch).

2004

❖ The paper **"What is Artificial Intelligence?"** is published, forever changing the production of AI.

2011

❖ IBM **Watson beats champions** Ken Jennings and Brad Rutter at Jeopardy!

2015

❖ Baidu's Minwa supercomputer **categorizes images** with a higher rate of accuracy than the average human.

2016

❖ DeepMind's AlphaGo program beats world champion Go player, **Lee Sudo**, in 5 matches. The victory is significant given the huge number of possible moves as the game progresses (over 14.5 trillion after just four moves!)

2023

❖ A rise in large language models, such as ChatGPT, enter the market. With the new generative AI practices, deep-learning **models can be pre-trained on vast amounts of raw unlabeled data.**



IBM and AI:

Showing off their innovation to the public through demonstrations in professional chess and the TV show "Jeopardy," IBM has shown its goals are to **bring AI to the world**. With its newest version of AI, watsonx™, IBM is working ever closer to this goal.

What is watsonx™?

Watsonx™ is an AI made for businesses that want to **integrate AI into their digital infrastructure**. It is the substructure to the superstructure of modern and developing business models.



Issues with AI/ML:

Without data, ML cannot advance. AI needs **ten times** more samples than features in a dataset. To ensure high accuracy, AI needs more data than previously achievable. For instance, ChatGPT 4.0 consists of **1.76 trillion parameters**, each parameter is 64 bits, ML will never stop growing.



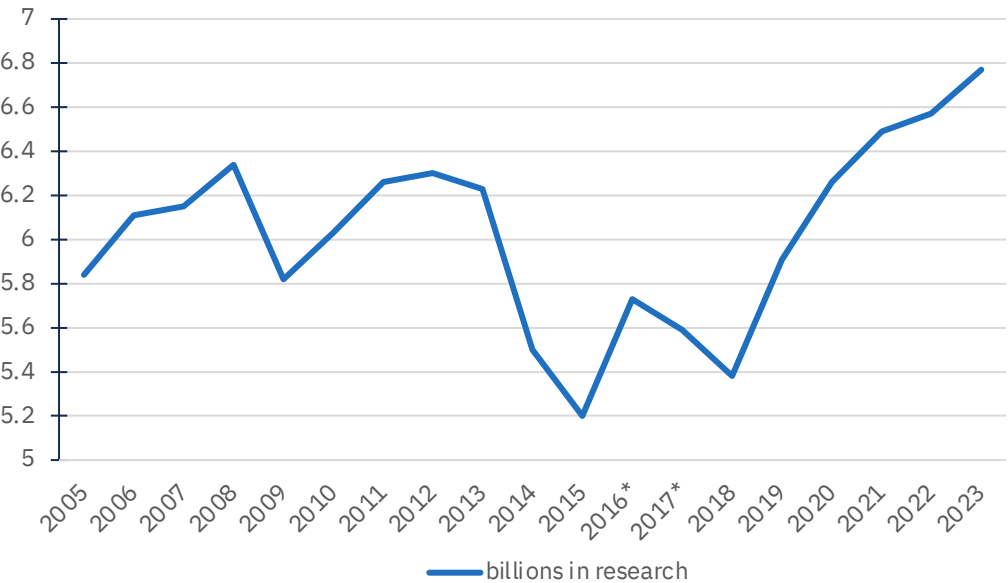
Source: IBM "History of AI", 2023

IBM Overview | Research & Development



Areas of interest for IBM

IBM has **\$6.57 Billion In R&D** expenditures, with the objective of R&D geared towards big data, quantum computing, and blockchain technology.



“Failure of Innovation Initiatives Could Impact the Long-Term Success of the Company: IBM has moved into areas, including those that incorporate or utilize hybrid cloud, artificial intelligence, quantum and other disruptive technologies, in which it can differentiate itself through responsible innovation, by leveraging its investments in R&D and attracting a successful developer ecosystem. **If IBM is unable to continue its cutting-edge innovation** in a highly competitive and rapidly evolving environment or is unable to commercialize such innovations, expand and scale them with sufficient speed and versatility or is unable to attract a successful developer ecosystem, **the company could fail in its ongoing efforts to maintain and increase its market share and its profit margins.”**

-IBM (10-K (IBM, 2024))

IBM Project Direction

IBM is currently developing its AI, watsonx™, with intentions for public and private use. With watsonx™ in mind, IBM will need to invest in digital infrastructure to house their AI. Additionally, for the public to utilize IBM’s Quantum Computing in the future, it will require large data centers to run the abundance of HW that Quantum Computing inherently requires.

Source: (IBM 10-k(IBM, 2023))

Company Analysis

IBM



EQUINIX

IBM+ EQUINIX

Strategic Fit

Equinix Overview

Profitability, customer base, and potential for growth.



Equinix Data Center Structure

Equinix offers premium, highly scalable data center colocation services. They own and operate **260 data centers**, with **17 being xScale** (and one MC1). These data centers are in 33 countries in the **Americas**, **EMEA**, and **APAC**. Most of DCs are structured as a REITs, with the majority of exceptions in parts of APAC, structured as TRSs.

Data Center HW Improvements

Newer **IBX** data centers (the standard Equinix DC) have **doubled the power and cooling capabilities**. The old IBX centers may face the consequences increased power and cooling necessities by needing to leave cabinet **space unutilized**.

In the last 2 years, Equinix created two new joint ventures to develop and operate **xScale data centers**. Reason being to serve the needs of the **hyperscale** data center market.



260 Data Centers

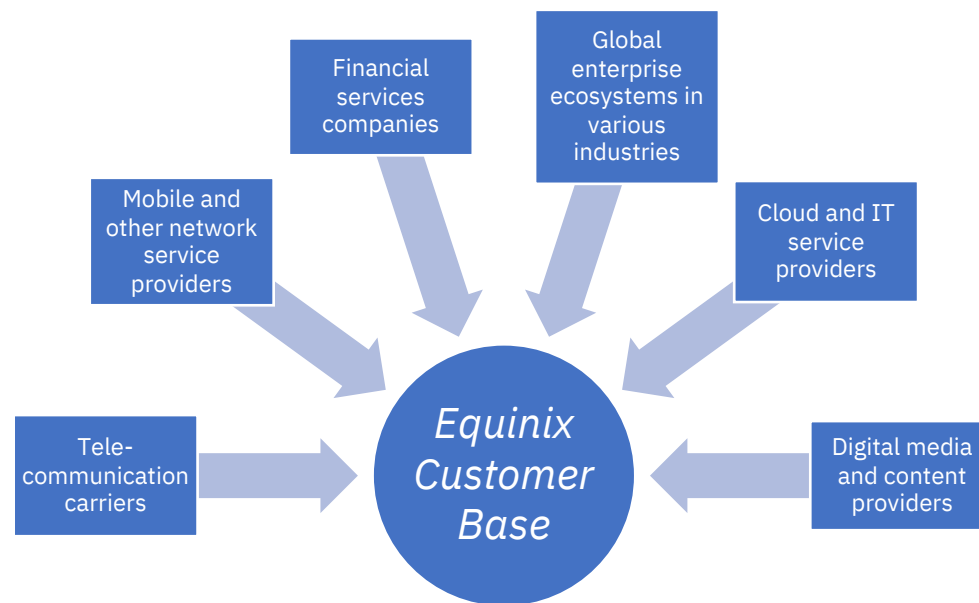
(IBX, xScale, MC1)



71 Global Markets



33 Countries



Equinix Revenue Breakdown



3% = Top Client
37% = Top 50 Clients



44% = Americas
35% = EMEA
21% = APAC

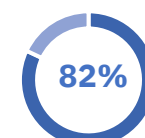


3% = Recurring
37% = Non-recurring

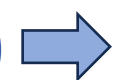
Low Cabinet Utilization

Cabinet utilization rates are declining due to increased need for power and cooling, resulting in a need for HW improvements. This could have effects future revenue growth.

Cabinet
Utilization
Rates



2022



2023

Source: (Equinix, 2024), (Equinix 10-K(Equinix 2024))

Executive Summary

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Acquisition Feasibility

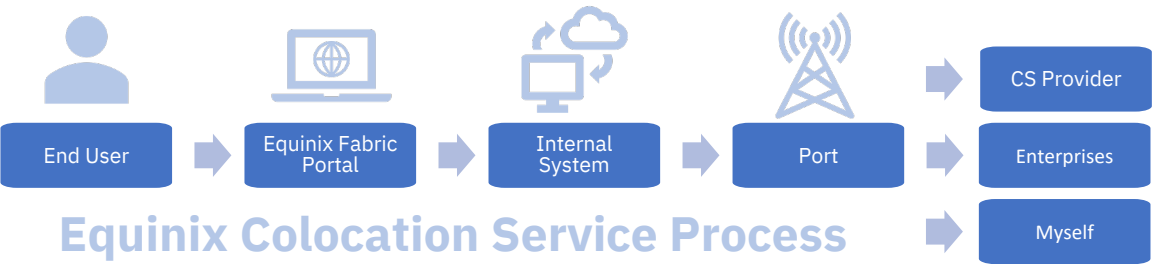
Alternative Solution

Conclusion

Equinix Overview | Colocation and Data Centers



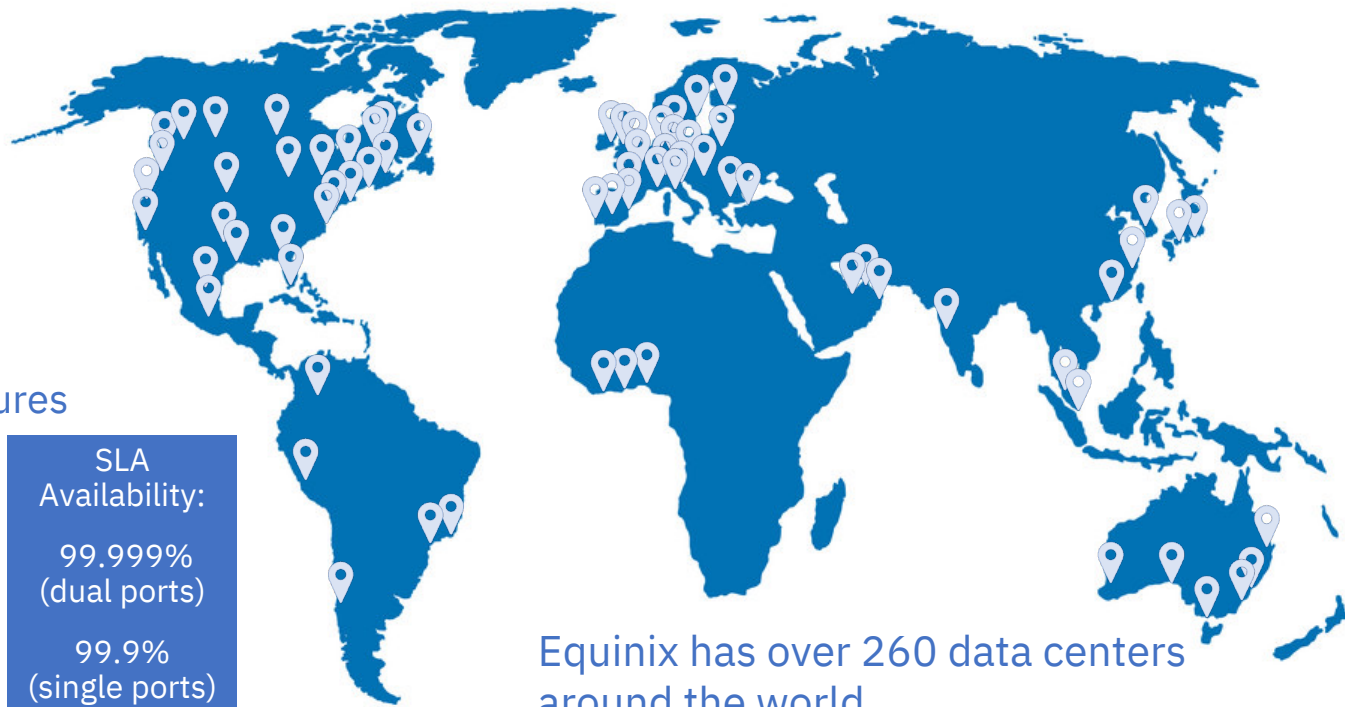
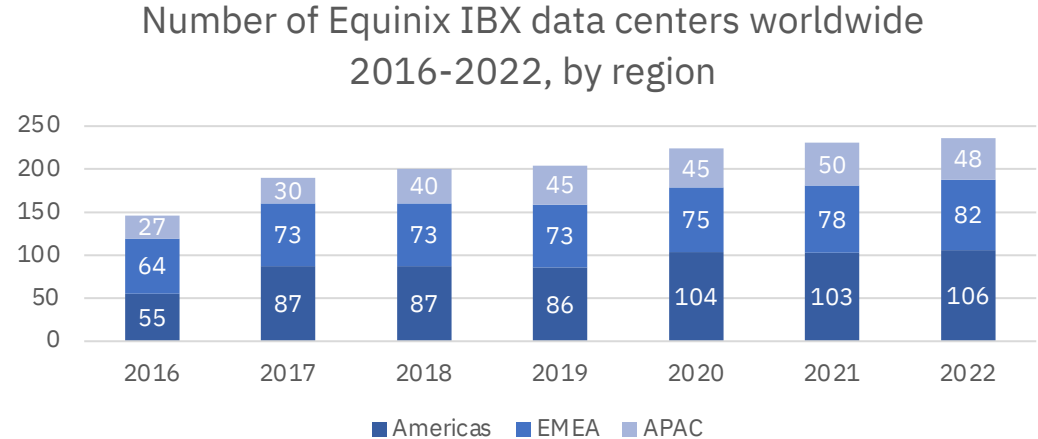
Equinix’s large global reach and business services



	# of IBX	Total Cabinet Capacity	Cabinets Billed	Cabinet Utilization %	MRR per Cabinet
Americas	108	145,400	112,900	78%	\$2,257
EMEA	84	136,200	109,100	80%	\$1,991
APAC	50	80,900	65,300	81%	\$2,104
Total	242	362,500	287,300		

Equinix Colocation Service Process

Equinix MCDC Distribution



Equinix has over 260 data centers around the world

Equinix Fabric Features

Equinix Fabric, previously known as Equinix Cloud Exchange (ECX) Fabric, is a connectivity platform which enables quick and secure connections to the cloud and network service providers. It creates an ecosystem where business can operate on a single platform.

Port Options:

- 1 Gbps
- 10 Gbps
- 100 Gbps

Connection Options:

Bandwidth, 50 Mbps - 10 Gbps

Adjust connection speeds in real time.

Layer 2-3 configuration options available.

SLA Availability:

99.999% (dual ports)

99.9% (single ports)

Source: (World Wide Technology, 2024) (Equinix Product Documentation(Equinix, 2024))

Equinix Overview | GDPR Regulation

European data center regulations and their effect on Equinix



GDPR Overview

The General Data Protection Regulation was a regulatory law often considered to be the strictest in Europe.

Equinix’s Infosec Governance, Risk Compliance (GRC)

This program lowers the risk of cybersecurity breaches for Equinix by putting in a centralized, and highly scalable platform. They use Platform Equinix to address important issues such as: “Audit Management, Risk Management, Policy Management, Regulatory Change and Compliance Management.”

[Equinix, 2022]



How Equinix deals with restricted International transfers set in place by the GDPR

Equinix uses a series of Sub-processors like a Standard Contractual Cause (SCC) to aid in the delivery and processing of Equinix’s services. Under the circumstance of international data transfer, Equinix engages in their adoption of BCR (Binding Corporate Rules), which are pre-approved for data transfer. Essentially, if the BCR does not cover the data transfer, Equinix will engage in an SCC to allow for GDPR abiding data transfer.

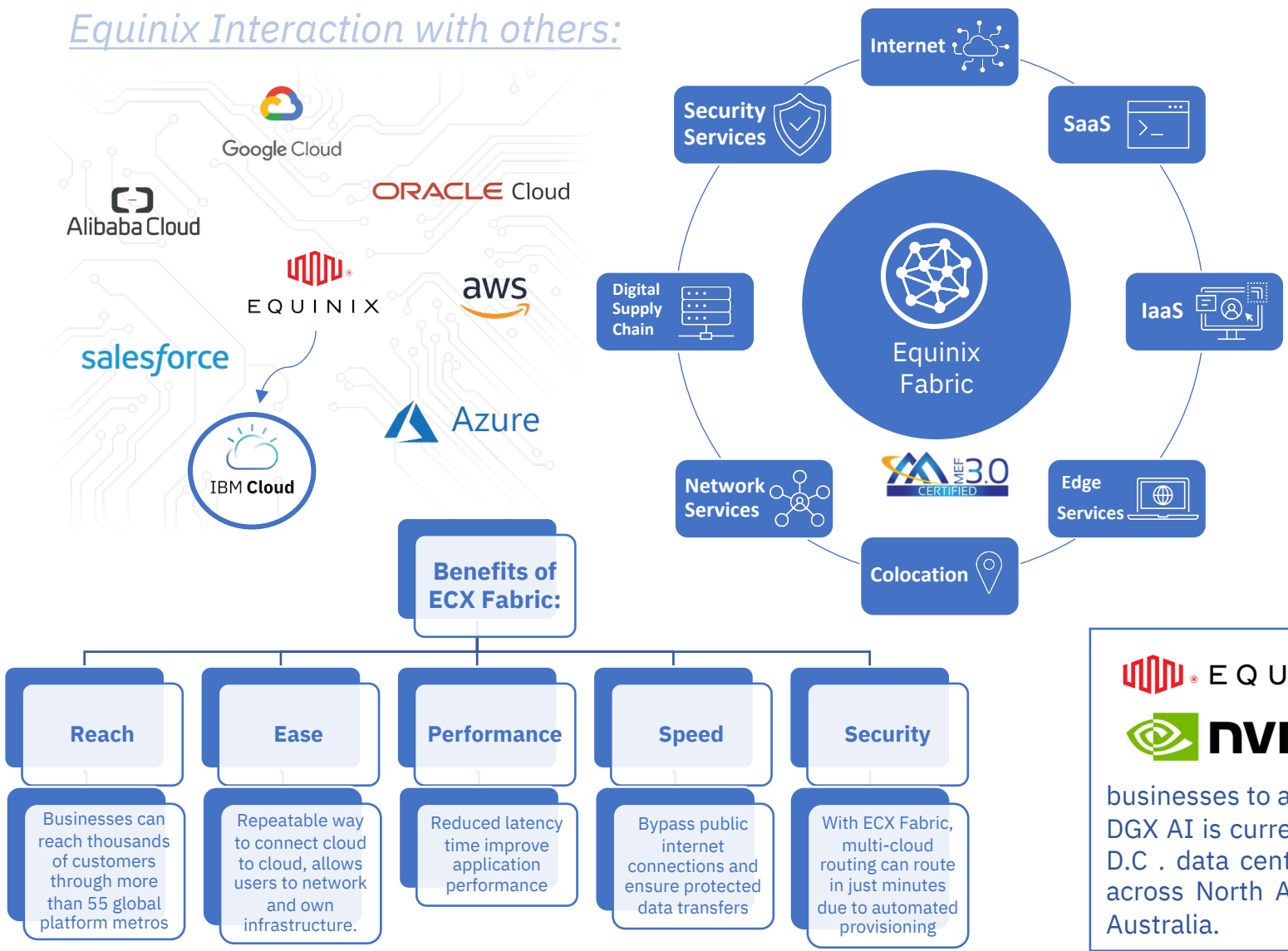
Source: (Equinix Corporate Sustainability (Equinix, 2023))

Equinix Overview | Fabric Capabilities



Equinix software and their partnership with NVIDIA

Equinix Interaction with others:



Equinix Fabric	Allows companies to deploy:
Internet	The Internet is the global network spanning across billions of computers that allows interconnection.
SaaS	SaaS refers to software being deployable as a service. Allowing users to access software from the internet instead of downloading it themselves.
IaaS	IaaS is a cloud computing service that enables organizations to rent/lease cloud services for use of computational or storage services.
Edge Services	Edge services enable organizations to run AI, business analytics, and any other business capability on an IoT device
Colocation	Colocation allows business to integrate their existing IT infrastructure into a larger organization's data center to reap the benefits of a data center without owning one.
Network Services	Network services allow for computer networks to communicate, share resources and access networks for resources.
Digital Supply Chain	Refers to the physical supply chain of digital resources such as AI, IoT, and blockchain.
Security Services	Refers to the digital security a company issues such as Firewalls, IDPS, DDoS and VPN's



Equinix Partnership with NVIDIA

As of January 2024, Equinix has partnered with tech industry titan, NVIDIA, to deploy their DGX AI. This private AI is marketed towards businesses to aid productivity and is optimized to meet each business's needs. DGX AI is currently being deployed in Equinix's Silicon Valley and Washington D.C . data centers, with plans to expand into ten more of their data centers across North America, Western Europe, Eastern and Southeastern Asia, and Australia.

Source: (Equinix Partners (Equinix, 2024)), (Equinix Products & Services (Equinix, 2024))

Company Analysis

IBM



EQUINIX

IBM + EQUINIX
Strategic Fit

Strategic Fit | Equinix Physical Infrastructure



Data centers and potential improvements

Project Synergy		Financial Strategy						
1.	<p>Equinix has the pre-existing digital infrastructure for their users to connect with IBM Cloud direct link 2.0</p> <p>In October 2023, Equinix and IBM joined forces allowing IBM customers to deploy their Hybrid Cloud Mesh gateways onto Equinix Metal platforms</p> <p>Equinix Fabric customers can use IBM Cloud™ Direct Link on Classic to connect on-premises resources to cloud resources.</p>	3.	<p>Equinix and IBM are eager to develop their projects. IBM has \$6.79Bn in R&D funds from 2023 which can be reallocated to upgrade and renovate Equinix's existing physical infrastructure.</p> <p>In 2023, IBM spent \$1.5 Bn in capital expenditures.</p> <p>R&D funds committed to Equinix DC HW changes will be determined upon closer review of IBM financials in relation to Equinix’s current HW.</p>					
	2.		<p>In terms of MCDCs per continent, IBM has access in the following:</p> <div><p>DC Distribution</p><table><tr><td>Asia</td><td>18%</td></tr><tr><td>Europe</td><td>46%</td></tr><tr><td>North America</td><td>36%</td></tr></table></div> <p>In terms of MCDCs, Equinix can add to IBM's pre-existence in:</p> <p><u>Established:</u></p> <p><u>Growing:</u></p> <div></div> <div></div>	Asia	18%	Europe	46%	North America
Asia	18%							
Europe	46%							
North America	36%							

Sources: (IBM Blog(IBM, 2023)), (Equinix Data Centers (Equinix, 2024)), (IBM 10-K IBM, 2024))

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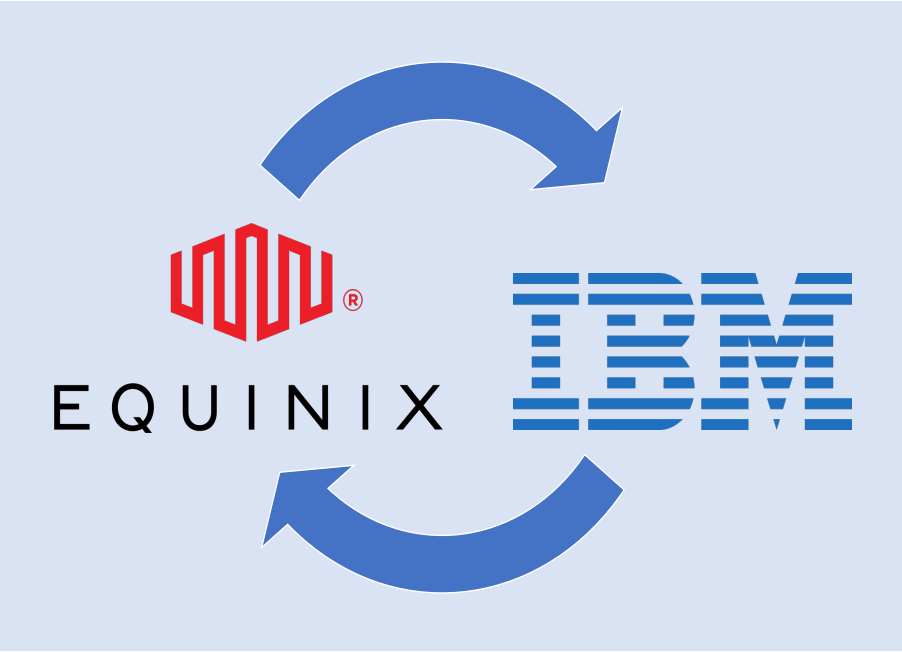
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Strategic Fit | Equinix Digital Infrastructure

Equinix Fabric relation to IBM software



1. **Equinix** offers digital infrastructure in the form of **Equinix Fabric**: a secure, scalable, multi-cloud colocation service, and physical infrastructure in the form of **250 IBX DCs** in 71 metro areas globally.
2. **IBM** offers **watsonx**: a generative business ai, geared toward in sighting financial opportunity, managing business operations, and even decision making.

Equinix can fuel watsonx, with its global data centers and expand IBM's infrastructure

- ❖ Expand global data center infrastructure
- ❖ Use R&D expense to cover renovations
- ❖ Enable Highspeed computing, low latency connection, vast storage data centers
- ❖ Equinix Fabric can host all of IBM's/Redhat's open-source software

Natural Synergy

Currently watsonx™ is not global and does not have enough data centers to fuel its data needs based on the nature of AI (splicing information).

Equinix Fabric allows companies to come together on a centralized platform. Redhat has a software branch called OpenShift which allows developers to create applications, this is already accessible on Equinix Fabric.

Source: (Equinix Products & Services (Equinix, 2024)), (IBM, 2024)

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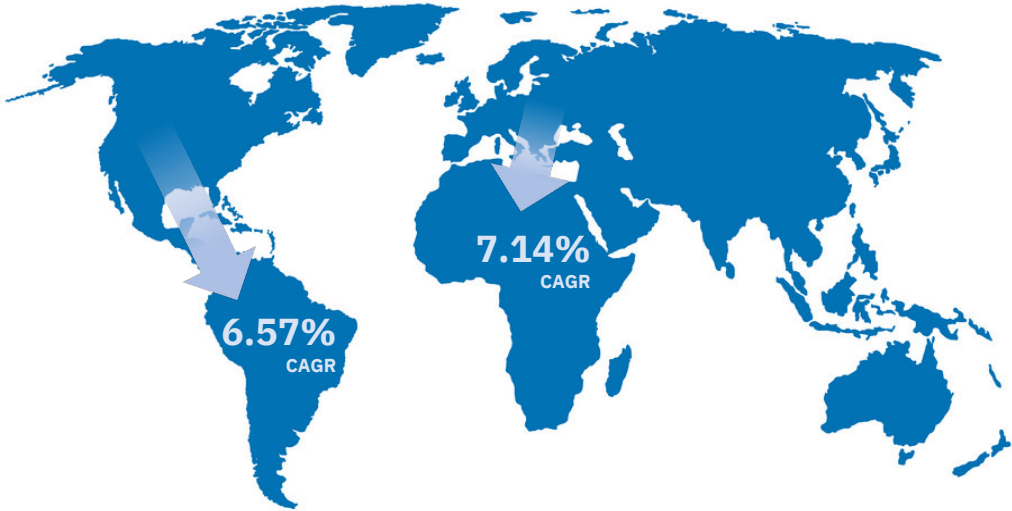
Strategic Fit | Equinix Future Outlook



Equinix potential to improve IBM projects



Equinix’s wide-spread data center reach paired with the continuous growth the data center REIT industry makes them a target for acquisition by IBM.

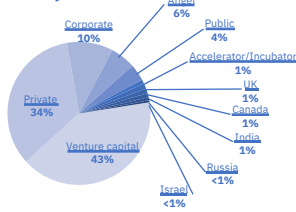


- ❖ Expansion into new regions of the world allow for a comprehensive customer reach. These regions (South America, Africa, and Oceania) are opportunistic, rapidly-growing markets that Equinix has a large presence in, making them a desirable acquisition for IBM.
- ❖ IBM’s main objective regarding watsonx™ is implementation into both the public and private business sector. The generative business capabilities of watsonx™ are expected to increase exponentially over the next few years alongside an increase in available data.
- ❖ QC HW requires massive amounts of energy that IBM does not currently have the capacity for. With the integration of Equinix’s newer IBX DCs (specialized for power management and cooling), IBM would be able to expand their QC operations and continue to meet their sustainability goals.

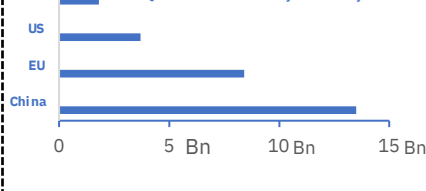
With Equinix’s NRSF that is not dedicated to IBM’s AI or Quantum Computers, **Equinix will continue to operate as a retail data center REIT**. To keep investors confident, IBM should **keep Equinix’s current customer base** and allocate a relatively small portion of the total NRSF to Quantum computing development, like Equinix’s plan with NVIDIA.

- ❖ Investors confidently support the QC market
- ❖ Varying types of investor assures market stability
- ❖ Diverse investor group reflect diverse demand

QC Investment by Investor



QC Investment by Country



Source: (McKinsey & Co., 2023), (IBM Q4 Earnings (Motley Fool, 2024))

A modern office interior with a large window overlooking a city skyline. The window shows a tall building on the left and a courtyard with trees and a bench on the right. The floor is covered with a dark, patterned carpet. The text "Financial Analysis Comps" is overlaid on the left side of the image.



Financial Analysis Comps

Financial Overview | Equinix Peers

Data center REITs and colocation service providers





Data Center REITs:



Logic: Equinix has more than 75% of its assets in its pre-existing real estate established as a DC REIT.

Colocation Service Providers:










Logic: Equinix provides colocation services for a secure data transfer network between businesses and DCs.

Source: (Investopedia, 2023), (Equinix, 2024)

Financial Overview | Equinix Related Industries



Equinix with its respective industries

Peer Industries	Market Size	CAGR	Relevance to Equinix	Revenue & Cost Drivers		Invest?
	\$1.7T	2.8% (2022-2030)	<p>Equinix's Market Share of REIT Industry</p>  <p>■ Equinix ■ Rest of Market</p>	<p>Power Consumption <input checked="" type="checkbox"/></p> <p>Inexpensive Cooling <input checked="" type="checkbox"/></p> <p>Legislative Regulations <input checked="" type="checkbox"/></p>	<p>Market Expansion <input type="checkbox"/></p> <p>New Client Leases <input type="checkbox"/></p> <p>Development <input checked="" type="checkbox"/></p>	
 colocation	\$61.5B	14.2% (2023-2030)	<p>Equinix Market Share of Colocation Services</p>  <p>■ Equinix ■ Rest of Market</p>	<p>Power Consumption <input checked="" type="checkbox"/></p> <p>Inexpensive Cooling <input checked="" type="checkbox"/></p> <p>Legislative Regulations <input checked="" type="checkbox"/></p>	<p>Market Expansion <input checked="" type="checkbox"/></p> <p>New Client Leases <input checked="" type="checkbox"/></p> <p>Development <input checked="" type="checkbox"/></p>	
	N/A	N/A	N/A	<p>Power Consumption <input checked="" type="checkbox"/></p> <p>Inexpensive Cooling <input checked="" type="checkbox"/></p> <p>Legislative Regulations <input checked="" type="checkbox"/></p>	<p>Market Expansion <input checked="" type="checkbox"/></p> <p>New Client Leases <input checked="" type="checkbox"/></p> <p>Development <input checked="" type="checkbox"/></p>	N/A

Source: (Grandview Research, 2022), (Technavio, 2023) (Refinitiv, 2024)

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Financial Overview | Equinix Peer Group Margin Analysis

Equinix compared to its peers

IBM






Peers	Gross Margin	EBITDAR Margin	EBITDA Margin	EBIT Margin	Profit Margin
 EQUINIX	48.37%	48.18%	45.21%	17.63%	11.84%
 IRON MOUNTAIN®	56.89%	45.27%	35.8%	19.1%*	9.76%
 AMERICAN TOWER®	70.74%	74.8%	63.59%	27.14%	13.31%
 NEXT DC	77.1%	N/A	53.44%	15.4%	-7.08%
 NTT DATA	26.42%	15.5%	15.18%	7.38%	4.28%
					* Estimated margins

Source: (Refinitiv, 2024), (Wharton Database, 2024), (Equinix 10-k (Equinix, 2024)), (Iron Mountain 10-k (Iron Mountain 2024)), (AMT 10-k (AMT, 2024)), (NTT Data 10-k (NTT, 2024))

Financial Overview | Equinix Peer Group Margin Analysis

Equinix compared to its peers

IBM

Peers	LTM		NTM	
	ROA	EV/EBITDAR	Debt/Assets	P/BV
<div> EQUINIX</div>	3.92%	37.29	0.50	6.75
<div> IRON MOUNTAIN®</div>	2.68%	13.03	0.69	104.02**
<div> AMERICAN TOWER®</div>	4.38%	17.30	0.59	21.52
<div> NEXT DC</div>	-1.3%	N/A	0.37*	3.94
<div> NTT DATA</div>	2.17%	9.26	0.27*	2.05

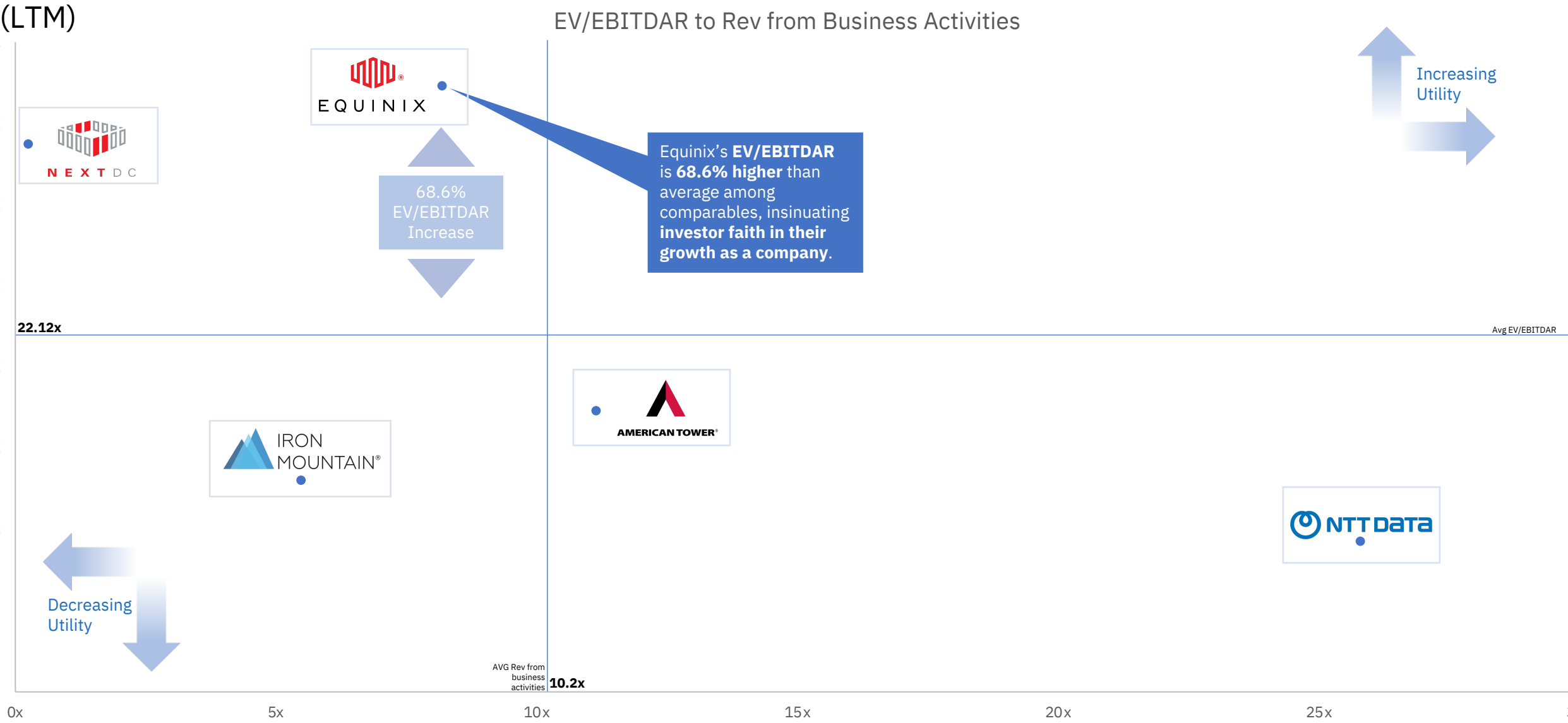
*data calculated on long-term
**abnormally high due to smaller asset holdings and uniform liabilities

Source: (Refinitiv, 2024), (Wharton Database, 2024), (Equinix 10-k (Equinix, 2024)), (Iron Mountain 10-k (Iron Mountain 2024)), (AMT 10-k (AMT, 2024)), (NTT Data 10-k (NTT, 2024))

Financial Overview | Equinix Peer Group Margin Analysis

IBM

EV/EBITDAR to revenue from business activities

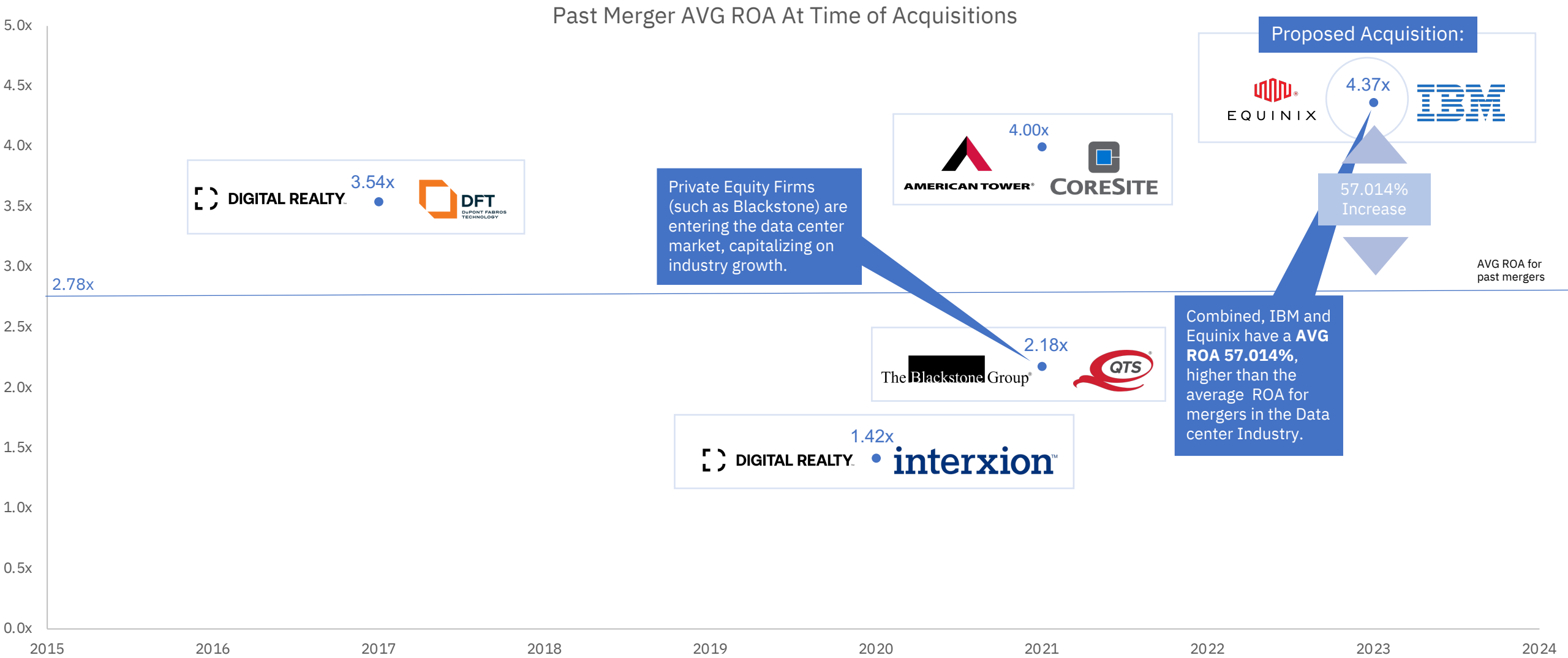


Source: (Refinitiv, 2024), (Wharton Database, 2024), (Equinix 10-k (Equinix, 2024)), (Iron Mountain 10-k (Iron Mountain 2024)), (AMT 10-k (AMT, 2024)), (NTT Data 10-k (NTT, 2024))

Financial Overview | Equinix Peer Group Margin Analysis

Past industry acquisitions compared

IBM



Source: (Wharton Database, 2024)

A blue-tinted photograph of a large industrial factory floor. The ceiling is high with numerous circular lights and exposed pipes. In the foreground and middle ground, there are several workstations with metal frames, shelves, and various equipment. A worker is visible at one of the workstations, focused on their task. The floor is polished and reflects the overhead lights. The overall atmosphere is industrial and professional.

Financial Analysis Discounted Cash Flow

Financial Overview | Equinix Revenue from DCs



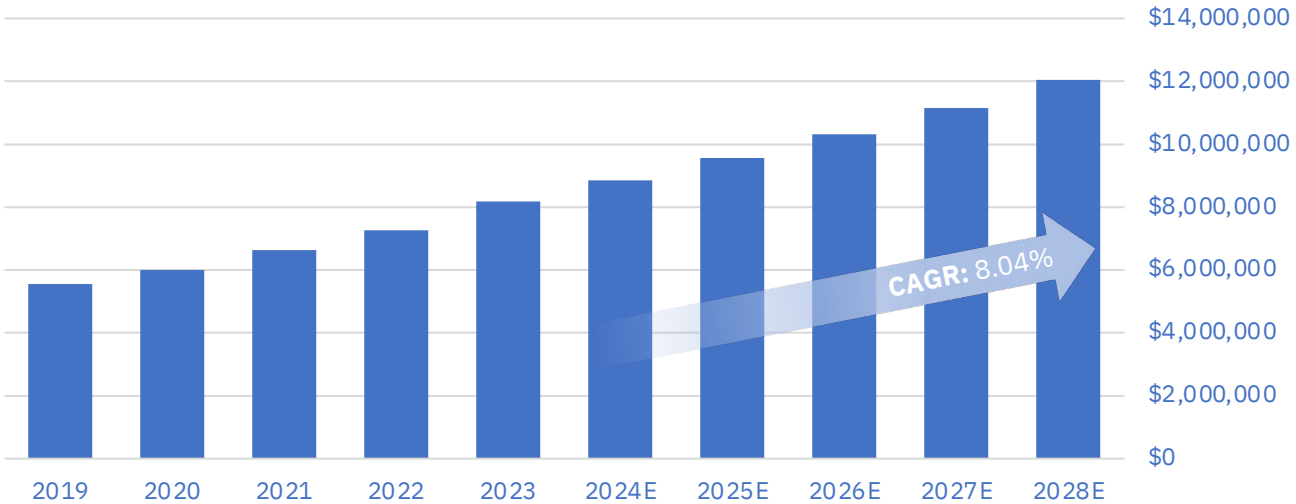
Past data and future outlook

Equinix DC Regional Outlook

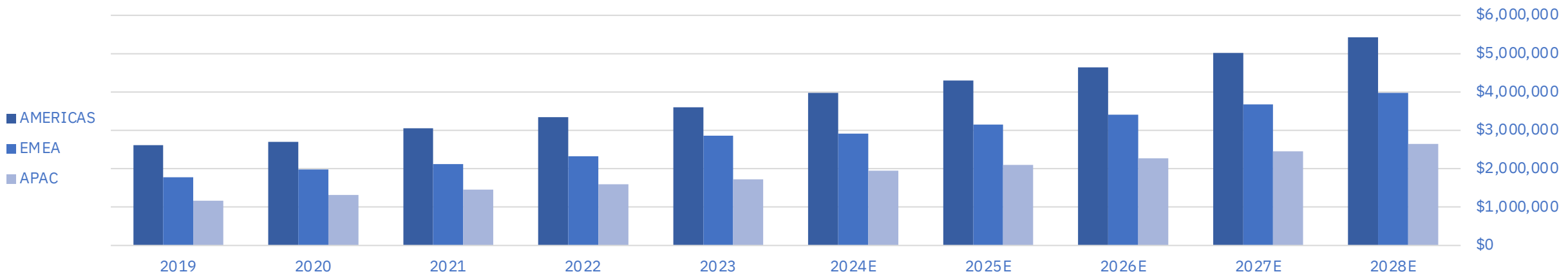
Equinix aims to improve their connectivity, enhance their security, and to stay environmentally sustainable. Quarter four report of 2023 marked Equinix’s 21st year of consecutive quarterly revenue growth.

In the last 2 years, Equinix established two new joint ventures with GIC Private Limited and PGIM Real Estate (in the form of LLPs). These ventures enabled Equinix to develop and operate xScale data centers aiming to serve the needs of the hyperscale DC market. In the future, Equinix aims to halt expansion into new markets and focus on upgrading their current DCs with hyperscaling capabilities.

Revenue Growth (Equinix)



Total Revenue Breakdown By Region (Equinix)



Source: (Statista, 2024), (SEC.gov, 2024)

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Financial Overview | DCF



Equinix’s valuations and FCF projections

Fiscal Year	2022	2023	2024	2025	2026	2027	2028
Fiscal Year end date	12/30/22	12/30/23	12/30/24	12/30/25	12/30/26	12/30/27	12/30/28
Revenue	7,263	8,188	① 8,857	9,554	10,320	11,147	12,040
% growth	9.458%	12.7%	8.2%	7.9%	8.0%	8.0%	8.0%
Gross Profit	3,512	3,960	② 4,296	4,634	5,005	5,406	5,840
% margin			48.5%	48.5%	48.5%	48.5%	48.5%
Operating Income	1,228	1,452	③ 1,635	1,763	1,905	2,057	2,222
% margin			18.5%	18.5%	18.5%	18.5%	18.5%
Corporate Tax			④ 225.7	243.5	263.0	284.1	306.8
After-Tax EBIT	1,119	1,327	1,409	1,520	1,642	1,773	1,915
Depreciation and Amoritization			2,267	2,442	2,675	2,956	2,996
Maintenance CapEX			(2,348)	(2,348)	(2,348)	(2,348)	(2,348)
Unlevered FCF			1,328	1,613	1,968	2,381	2,563
% growth				21%	22%	21%	8%
Discount Factor			93.07%	86.61%	80.61%	75.02%	69.82%
Present Value of Unlevered FCF			1,236	1,397	1,587	1,786	1,790

Additional Remarks

- ① ❖ 5-year projection is based off historical trends from past 5 years
❖ Assumed CAGR: 8.01664%
- ② ❖ 5-year projection based off the average GPM of the past 5 years
❖ Significantly lower forecast than those given by Refinitiv. Their credited analysts tend to vastly overshoot

- ③ ❖ 5-year projection based off average Operating Margin for the past 5 years
❖ Assumed Operating Margin of 18.5%
- ④ ❖ 5-year projection is straight-lined from 2023 results
❖ Assumed Tax Rate of 13.81%

Source: (Refinitiv, 2024)

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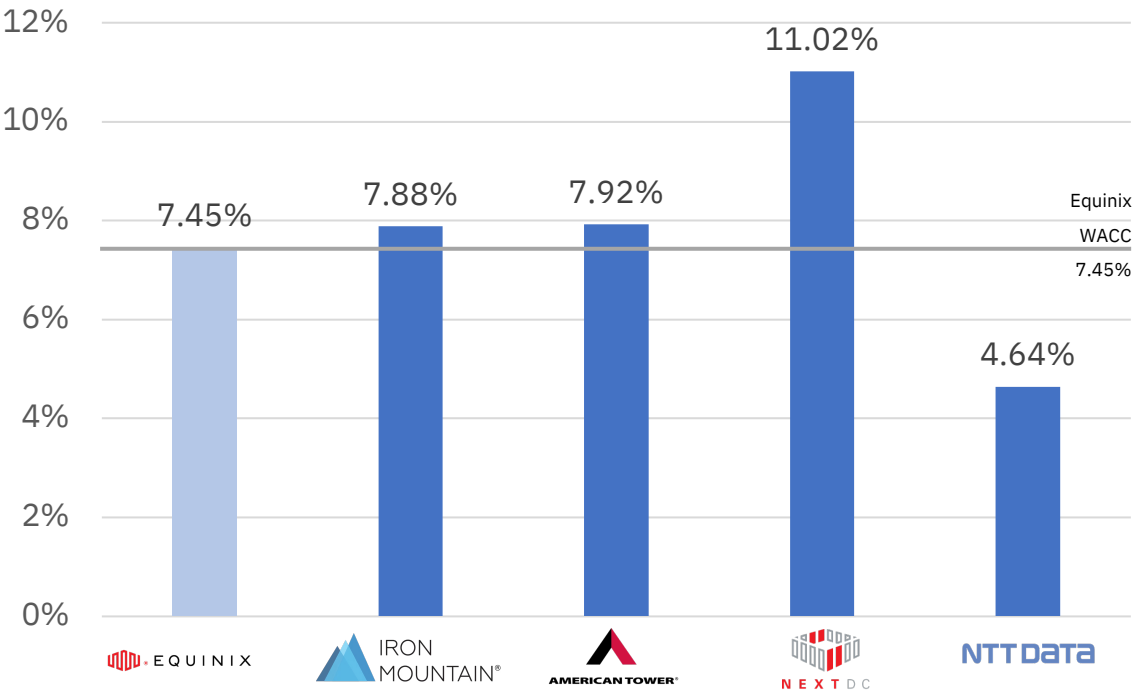
Financial Overview | DCF



Calculations leading to weighted average cost of capital

Cost of Capital Assumptions		
Pre-tax Cost of Debt		5.31%
Tax Rate		13.81%
Risk Free Rate		4.27%
Beta (5Y monthly)		0.59
Market Risk Premium		11.76%
Cost of Debt		
Pre-Tax Cost of Debt		5.31%
Tax Rate		13.81%
After-tax Cost of Debt		4.58%
Cost of Equity		
Risk Free Rate		4.27%
Beta		0.59
Market Risk Premium		11.76%
Cost of Equity		11.13%
Cost of Capital (WACC)		
Capital Weights		
	Amount	% of Total
Market Value of Equity	\$12,484,499,000	43.84%
Market Value of Debt	\$15,993,040,000	56.16%
Cost of Capital (WACC)		7.45%

Selected comparable companies' average cost of capital



- ❖ Equinix’s cost of capital is generally lower than those of its peers.
- ❖ This low cost of capital is mostly attributed to a decreased price volatility.
- ❖ In the property heavy industry they exist in, a low cost of capital makes Equinix attractive as it reflects an effective top-down management strategy.

Source: (Refinitiv, 2024)

Financial Overview | DCF



Two approaches

Exit Multiple Approach	
Terminal Year EBITDA	5,218
Terminal Year Multiple	21.91x
Terminal Value	114,325
Present Value of Terminal Value	98,141
Present Value of Stage 1 Cash Flows	1,236
Enterprise Value	122,121
<i>Implied TV growth rate</i>	<i>3.10%</i>

❖ Exit Multiple was determined by the average EV/EBITDA for R.E.I.T.s in the U.S.

		Exit Multiple Approach				
		17.91x	19.91x	21.91x	23.91x	25.91x
WACC	6.45	931.71	1,042.72	1,153.73	1,264.73	1,375.74
	6.95	930.43	1,041.44	1,152.45	1,263.46	1,374.47
	7.45	929.19	1,040.20	1,151.21	1,262.22	1,373.22
	7.95	927.97	1,038.98	1,149.99	1,261.00	1,372.01
	8.45	926.78	1,037.79	1,148.80	1,259.81	1,370.82

Source: (Refinitiv, 2024)

Gordon Growth Approach	
FCF in Last Forecast Period	2,563
FCF ^(t+1)	2,642
Long Term Growth Rate (g)	3.1%
Terminal Value	123,672
Present Value of Terminal Value	86,345
Present Value of Stage 1 Cash Flows	1,236
Enterprise Value	94,141
<i>Implied TV Exit Multiple</i>	<i>21.91x</i>

❖ Gordon Growth model assumes a more conservative growth rate in line with industry wide estimates

		Gordon Growth Approach				
		1.1%	2.1%	3.1%	4.1%	5.1%
WACC	6.45	704.98	890.72	1,187.34	1,736.42	3,098.96
	6.95	621.86	771.39	998.59	1,385.22	2,189.84
	7.45	552.08	674.65	853.57	1,139.31	1,668.23
	7.95	492.70	594.70	738.76	957.66	1,330.17
	8.45	441.60	527.57	645.68	818.10	1,093.44

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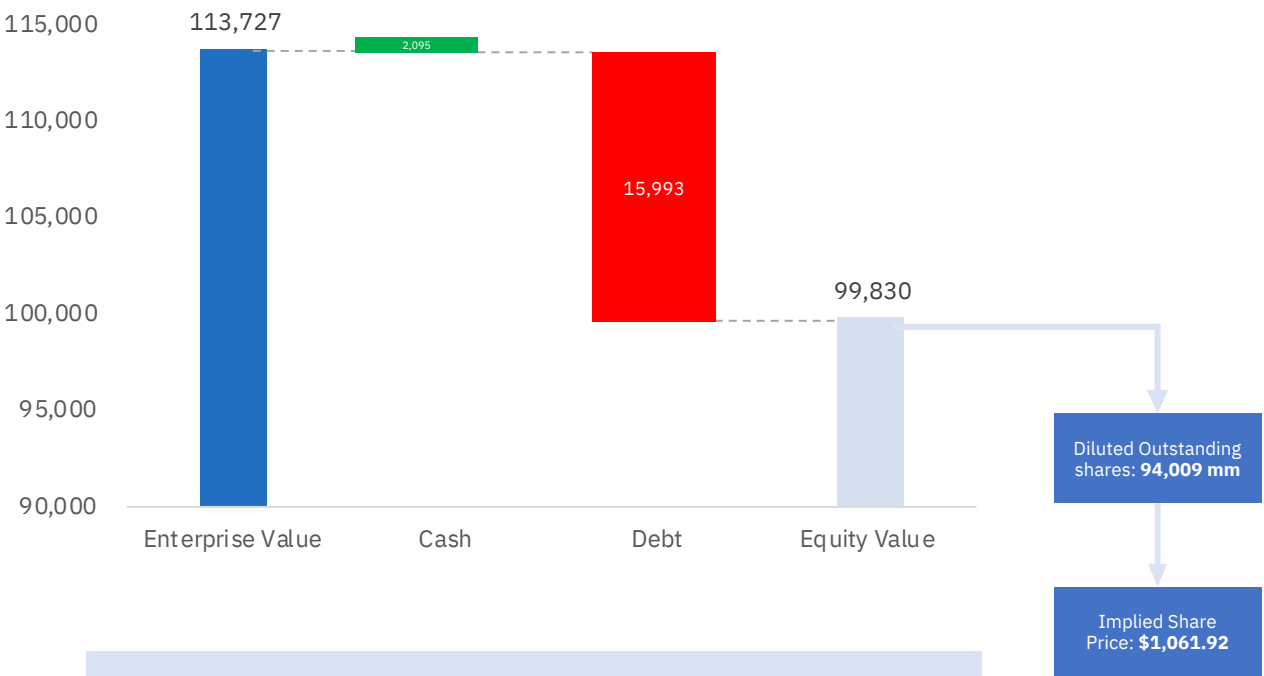
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Enterprise to Equity Value Bridge



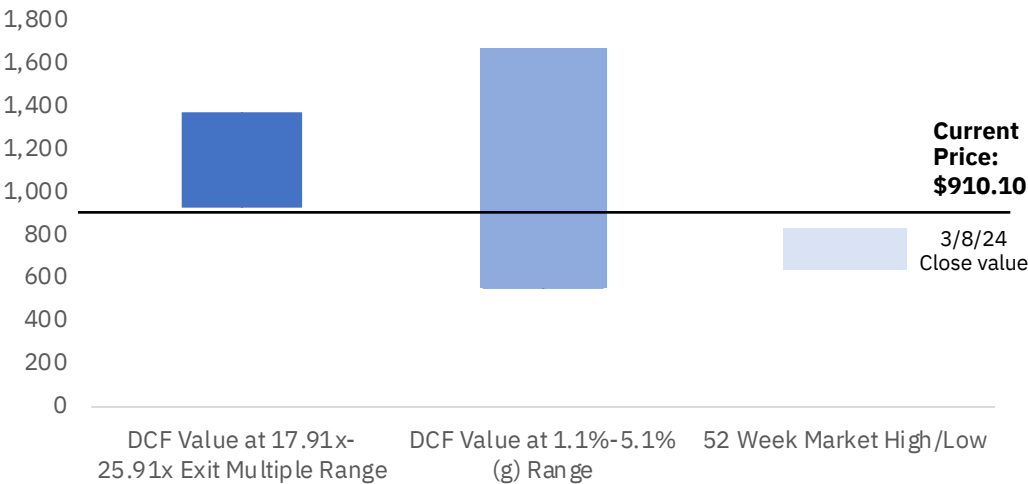
Current Enterprise Value: \$113.727 Bn

+ Cash and Cash Equivalents: **\$2.095 Bn**

- Total Debt: **\$15.993 Bn**

Equity Value: \$99.830 Bn

Football Field



❖ Current Enterprise Value via Gordon Growth Approach: **91.141 Bn**

❖ Current Enterprise Value via Exit Multiple Approach: **122.121 Bn**

❖ Equinix's **DCF analysis** concludes that the firm is **Overvalued** in relation to its current market valuation



Financial Analysis Synergies

Financial Overview | Synergies



Equinix and IBM synergistic overview

IBM and
Equinix
Synergies

Cost	Revenue	Post-Merger
<ul style="list-style-type: none">❖ Higher productivity❖ Tax cuts❖ Less outsourcing❖ Better resource utilization	<ul style="list-style-type: none">❖ CHIPS Act❖ Increased demand for Digital infrastructure❖ Higher retained earnings	<ul style="list-style-type: none">❖ Parent company benefits (IBM)❖ Captive REIT benefits (Equinix)❖ New revenue streams
Lower Costs	+ Higher Revenue	= A Successful Merger

More details		
Costs	Revenue	Post-Merger
Captive REIT’s receive complete tax deductions on interest paid on real estate or renovations on pre-existing real estate properties. Depending on varying jurisdictions, captive REITs can also receive tax deductions for depreciation and capital gains.	In having Equinix as a captive REIT, IBM will have full control over how they will allocate the newly acquired real estate holdings. Assuming IBM makes the correct decisions, they can increase revenue in the future by decreasing their taxable income. The CHIPS Act gives subsidies to semiconductor companies thus enticing them to produce more which drives innovation causing the need for more storage.	As a parent company IBM has full control over Equinix’s assets. Equinix will not have to console shareholders thus increasing productivity. They would have IBM’s available cash flow and higher R&D margins.

Source: (Faster Capital, 2023)

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Conclusion

Financial Overview | Synergies



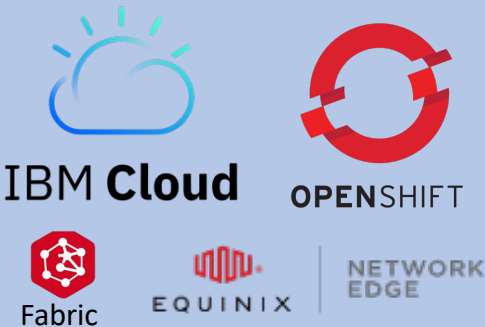
Important cost synergies



Higher Efficiency Operations



With IBM’s capital, Equinix could utilize IBM Cloud & Redhat OpenShift in tandem with their ECX Fabric and Equinix Network Edge. Equinix runs on a private IBX, thus IBM could utilize its public and newly private presence to appeal to investors who express concern about Data Privacy.



IBM’s capital will aid in streamlining for Equinix



IBM’s experience can help with optimizing resource utilization



IBM can restructure its R&D costs to reduce overhead and incentivize productivity

As mentioned previously, with the help of IBM’s limitless resources, Equinix will see a multitude of benefits including but not limited to higher R&D expenditures. IBM could outsource labor in the regions Equinix is already located in decreasing overhead costs.



Equinix can utilize IBM’s \$1.5 Bn Capital Expenditure budget to fund new development projects to expand their preexisting physical/digital infrastructure through upgrading cooling systems, increasing total rack space, and improving latency speeds.



Source: (Refinitiv, 2024), (Equinix Data Centers (Equinix, 2024))

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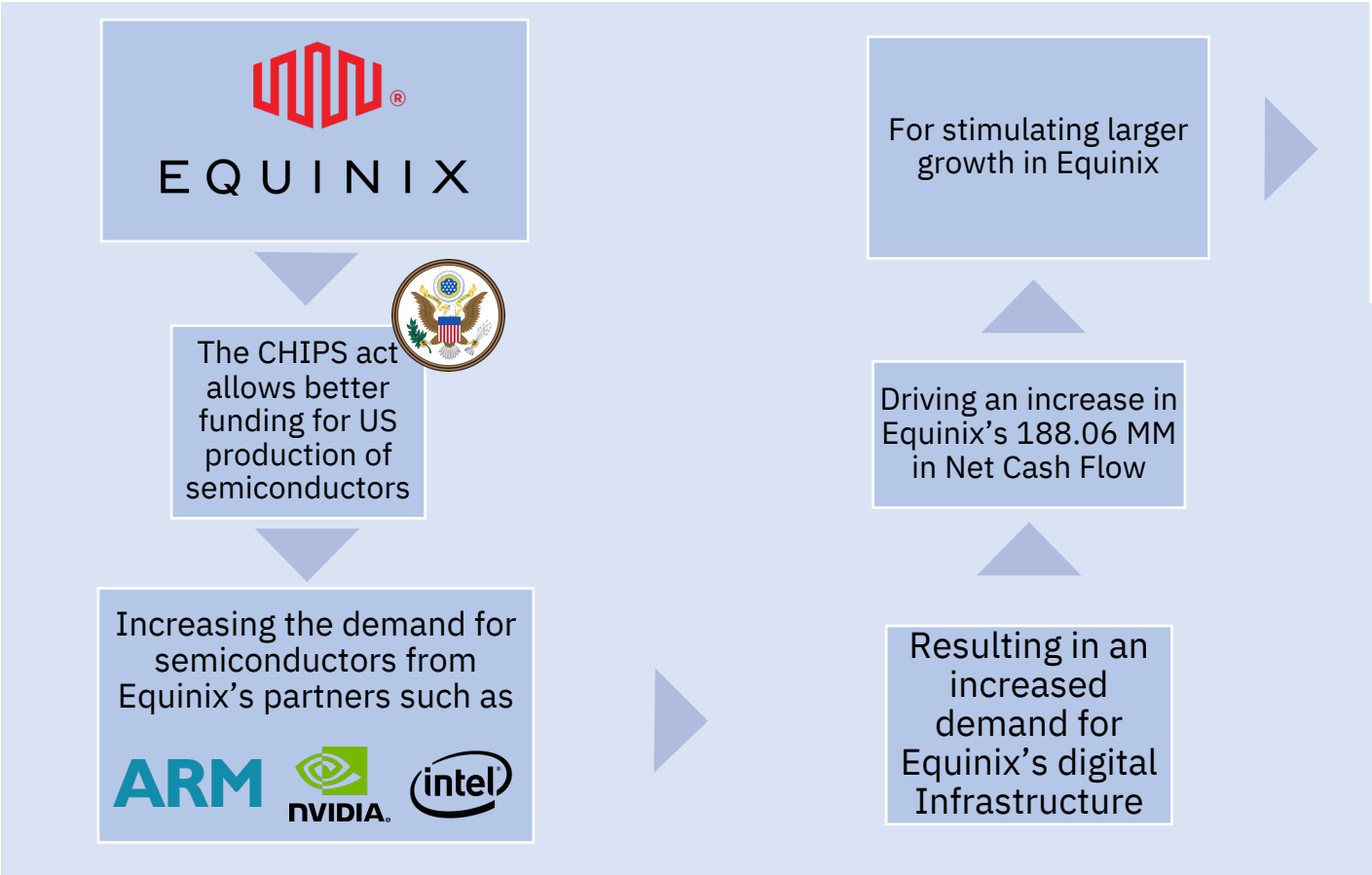
Alternative Solution

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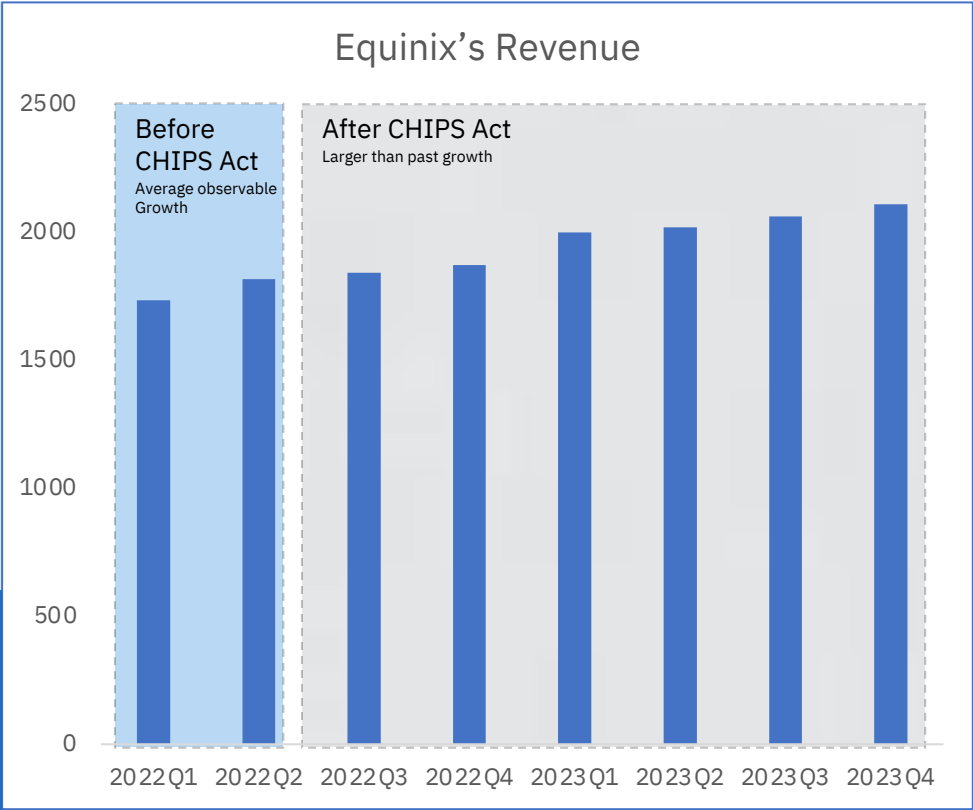
Financial Overview | 2022 CHIPS Act



US attempt to stimulate its semiconductor industry



Causing a large increase in value for Equinix since its inception



Context:

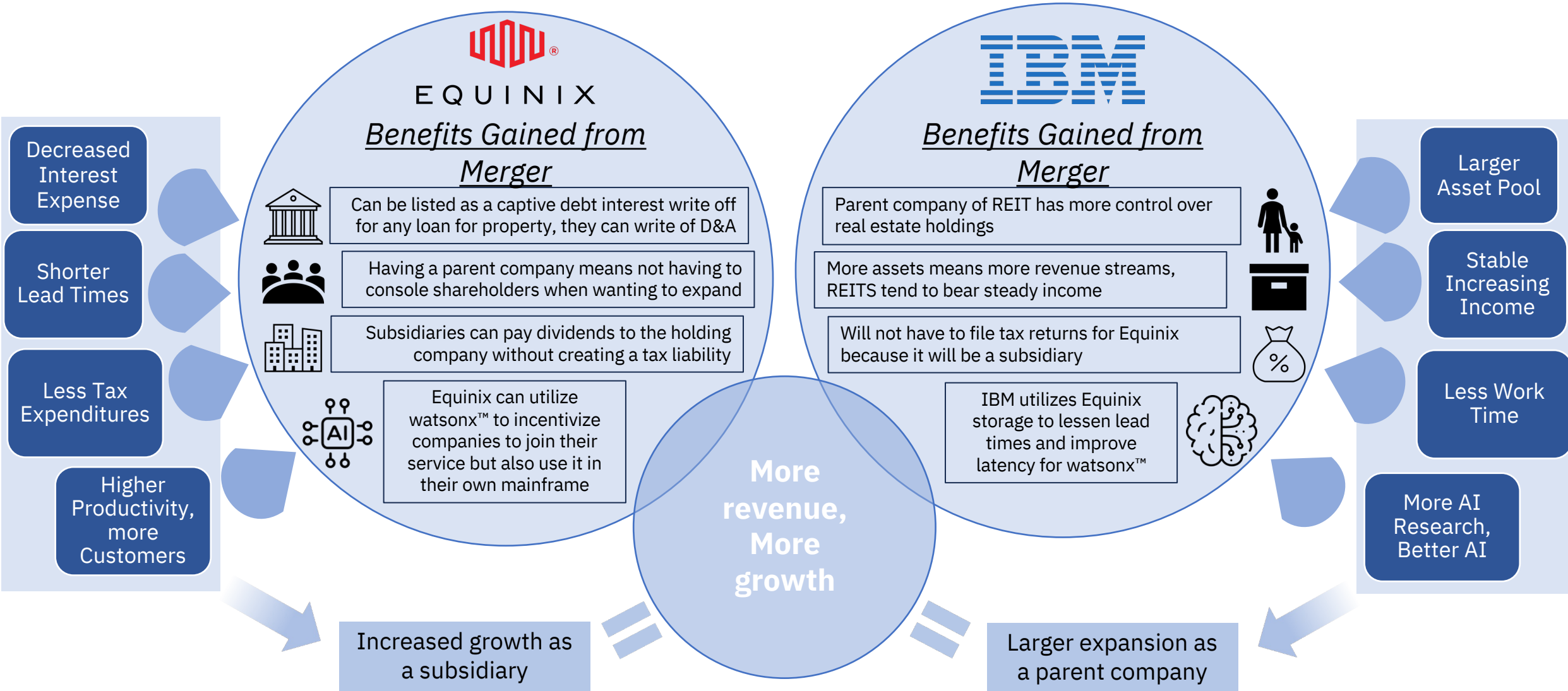
The Chips and Science Act of 2022 allocates \$52.7 Bn in federal subsidies to chip manufacturing companies. In 1990 the U.S. produced 40% of the global semiconductors prior to the Chips Act it dropped down to 12%. 1 year after companies reported \$166 Bn in semiconductor and electronics investments.

Source: (PWC, 2024), (WhiteHouse.Gov, 2023)

Financial Overview | Synergies

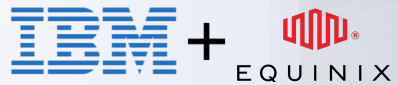


Equinix/IBM post-merger revenue synergies



Source: (fastercapital.com, 2023)

Acquisition Feasibility

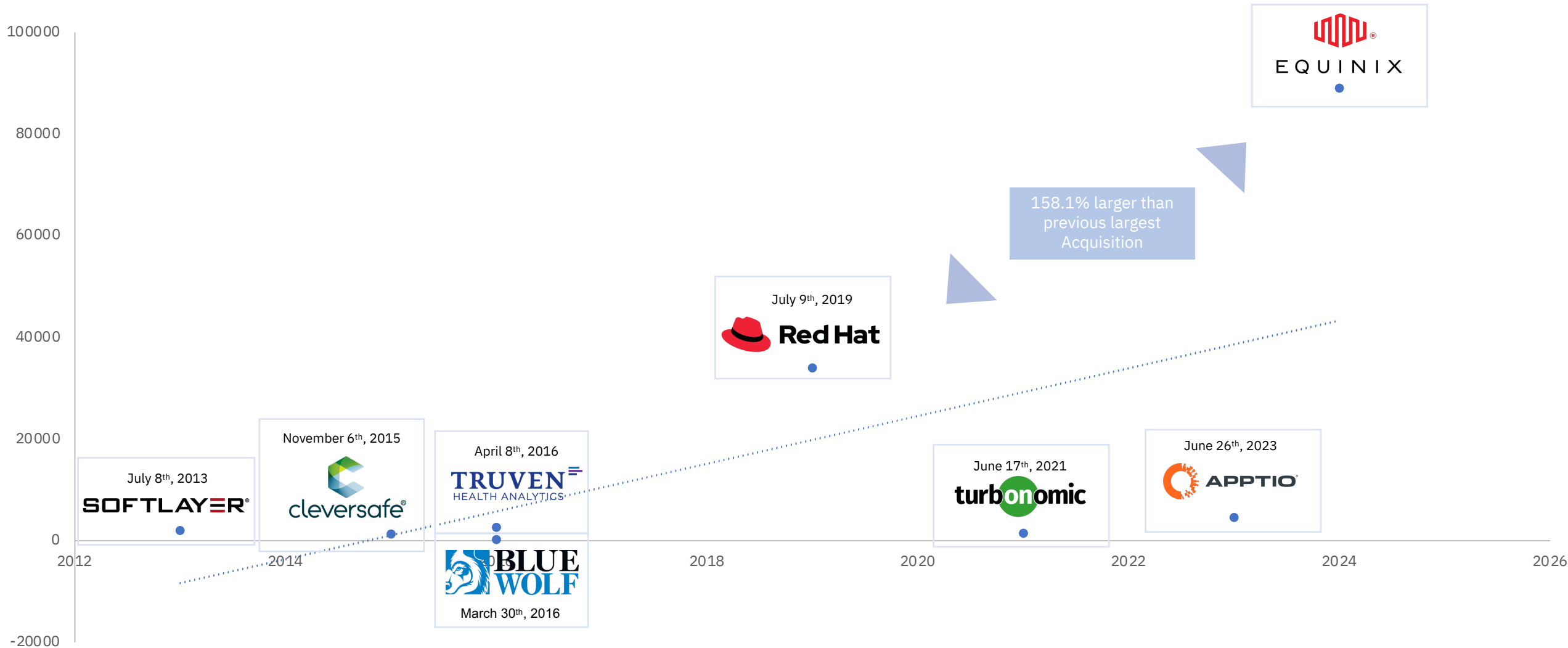


Acquisition Feasibility Analysis | IBM History



IBM past acquisitions

IBM LTY M&A Summary



Source: (Data Center Dynamics, 2023)

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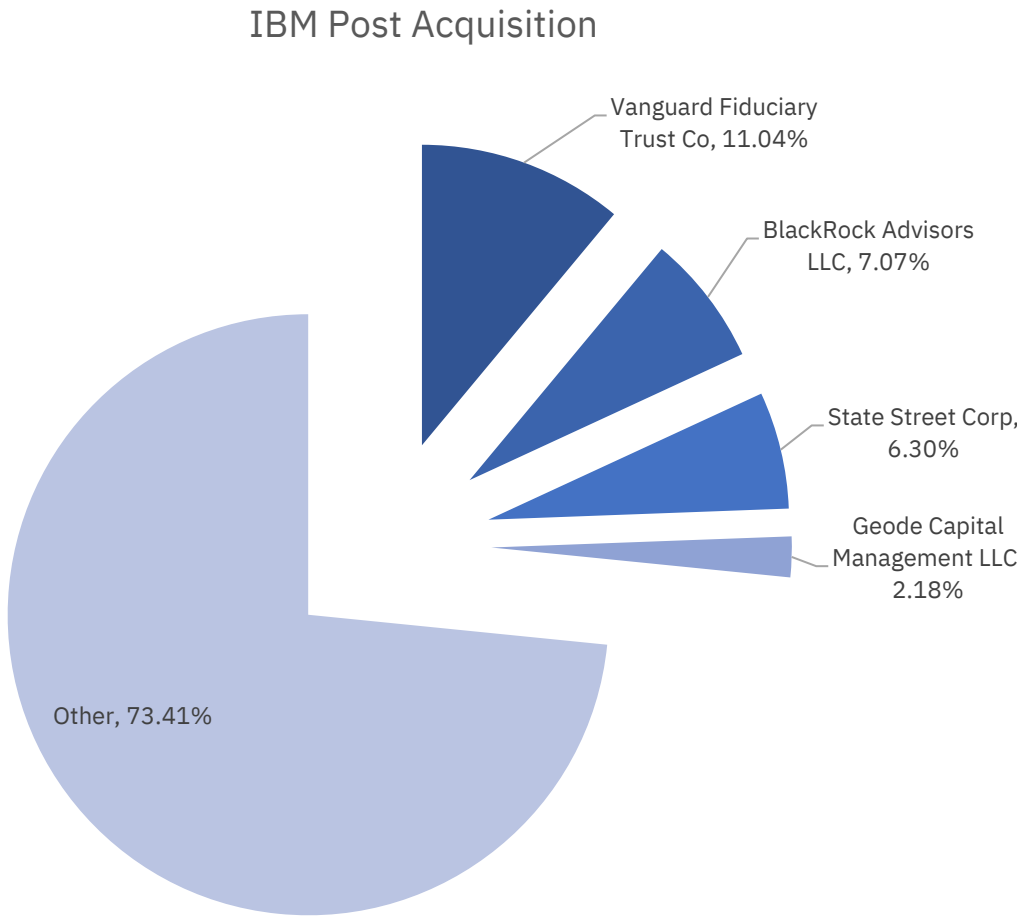
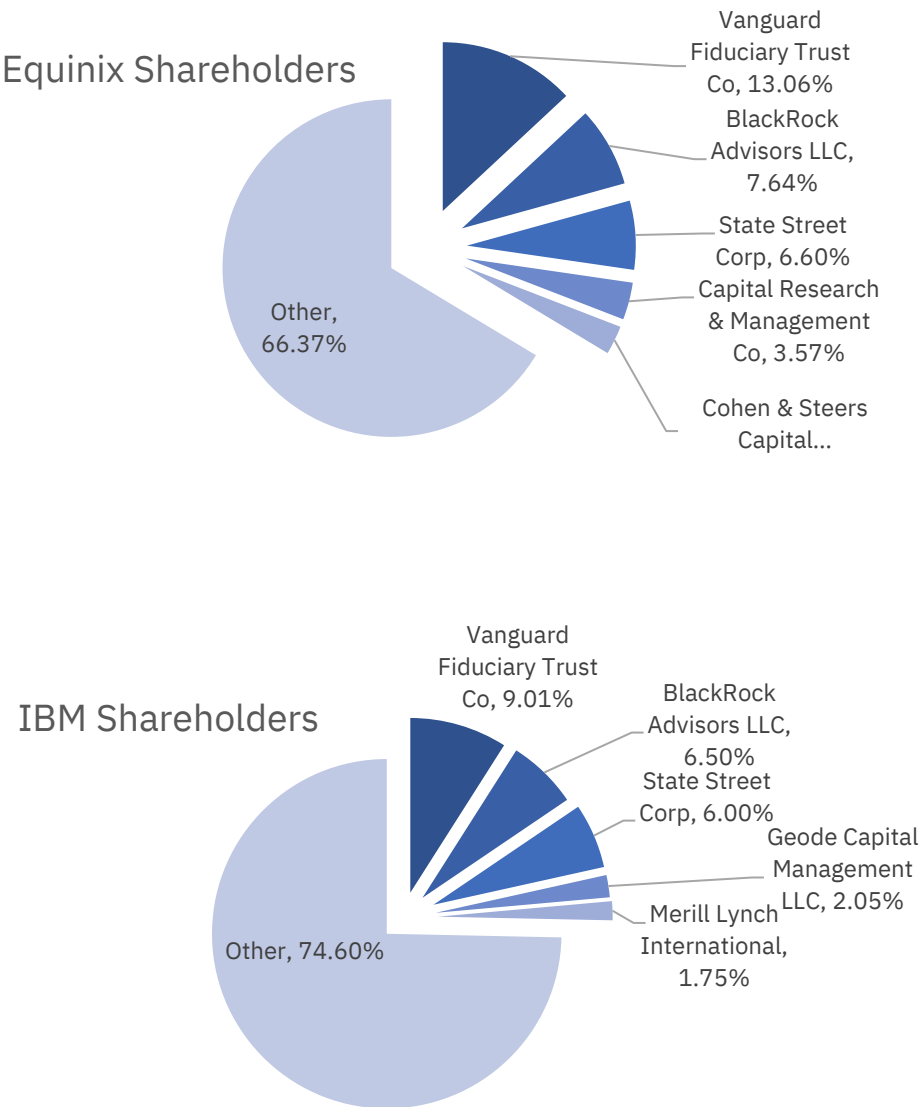
Acquisition Feasibility Analysis | IBM Stock Distribution

Effect of acquisition on stockholder ownership

IBM

Pre-Acquisition:
IBM has a large majority of individual investment with Vanguard having the majority shares of 9.01%.

Post-Acquisition:
IBM’s individual stockholders will decrease by 6.18% and Vanguard will increase their majority stake to 11.04%. There will also be a larger portion of asset management companies with shares.



Source: (marketscreener.com, 2023)

Acquisition Feasibility Analysis | IBM and Equinix Plans



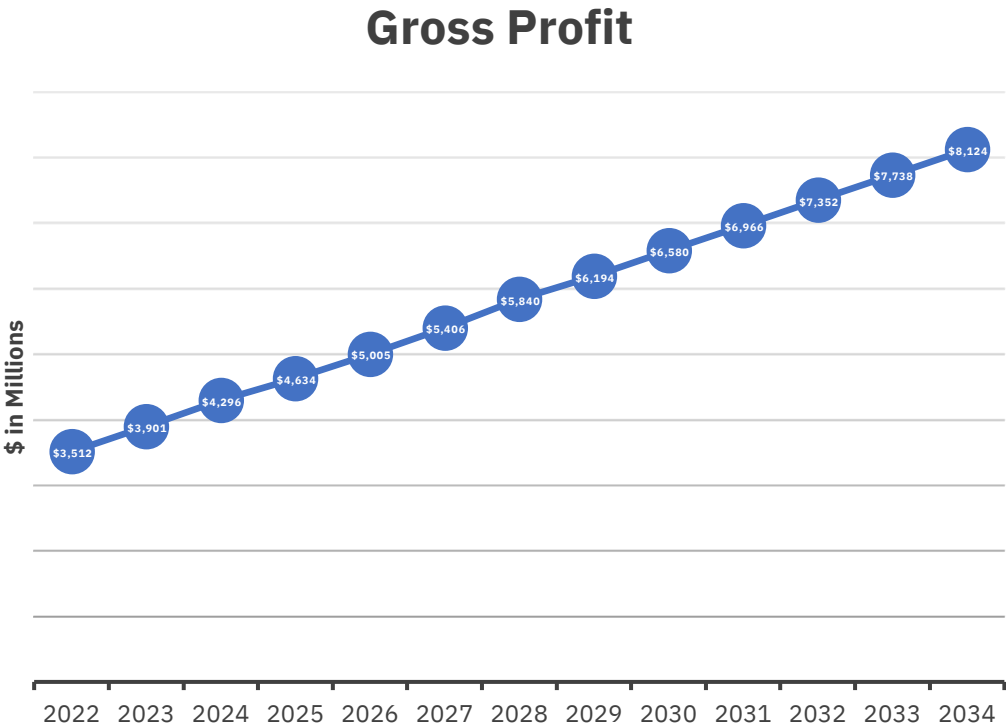
IBM and Equinix have differing goals

According to the Gross Margin Percentage, it would take 20 years for IBM to see revenue after acquiring Equinix, assuming their growth forecast is a steady 8% a year.

According to the DCF and the fair EV calculator it would cost: **\$118,248,556,260** to acquire Equinix thus crippling IBM financially.

Price per share is over evaluated thus inflating the prices for the existing market and increasing their overvaluation.

- Equinix is a retail DC REIT, comprised of roughly 10000 smaller customers
- IBM has a need for more DCs to support their new technology
- In the process of converting Equinix DCs to IBM tailored DCs, the eligibility of the REIT status could be jeopardized to the low NRSF and the high square footage demand for AI and Quantum Computing



Separate Trajectories

In their 2023 10K report, **Equinix states they want to grow organically moving forward.** Equinix has made many acquisitions in the past decade and after casting a wide net, they want to focus on upgrading and expanding their current DCs for hyper-scaling capabilities. **IBM is looking to take a company and ingrate them into their ecosystem,** aiming to compliment their technological achievements in AI and Quantum Computing. Equinix’s historical dominance in the industry coupled with their new partnership with tech titan, NVIDIA, makes it likely that Equinix will not want to sell. Due to the large price tag and contradicting objectives of both companies, **it seems beneficial for IBM to explore other options for the foreseeable future.**

Source: (Equinix 10-k (Equinix, 2024)), (IBM 10-k (IBM, 2024))

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Acquisition Feasibility Analysis | Pro-Forma Breakdown

Analysis of Moody's pro-forma model

IBM

Moody'sA1

S&P GlobalA+

❖ If IBM were to acquire Equinix at the below levels of debt, they would be at risk of being downgraded by Moody's and S&P Global

Moody's3.45

S&P Global3.85

100% Debt	
Pro Forma adjusted EBITDA Breakdown	
FY	2023
Reported Pro Forma pre-tax income	9,814
Add back Interest expense	1,245
Add back D&A	6,241
Reported Pro Forma EBITDA	17,300
Non-Recurring Adjustments	2
Non-Operating Adjustments	622
Unusual Items	-368
Pension Adjustments	-1,149
Adjusted Pro Forma EBITDA	16,407

Adjusted Debt Breakdown	
FY	
Total unadjusted Debt	56,547
100% Debt financing of Equinix	85,000
Other standard adjustment	-3,058
Total adjusted pro forma debt	138,489
Moody's adjusted Pro Forma debt to EBITDA	8.44x

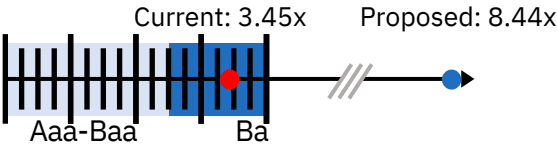
50% Debt	
Pro Forma adjusted EBITDA Breakdown	
FY	2023
Reported Pro Forma pre-tax income	1,985
Add back Interest expense	1,245
Add back D&A	6,241
Reported Pro Forma EBITDA	17,300
Non-Recurring Adjustments	2
Non-Operating Adjustments	622
Unusual Items	-368
Pension Adjustments	-1,149
Adjusted Pro Forma EBITDA	16,407

Adjusted Debt Breakdown	
FY	
Total unadjusted Debt	56,547
50% Debt financing of Equinix	42,500
Other standard adjustment	-3,058
Total adjusted pro forma debt	95,989
Moody's adjusted Pro Forma debt to EBITDA	5.85x

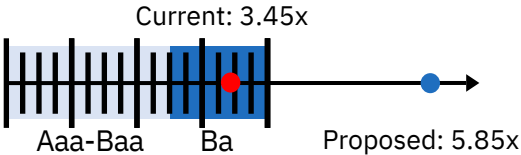
25% Debt	
Pro Forma adjusted EBITDA Breakdown	
FY	2023
Reported Pro Forma pre-tax income	1,985
Add back Interest expense	1,245
Add back D&A	6,241
Reported Pro Forma EBITDA	17,300
Non-Recurring Adjustments	2,149
Non-Operating Adjustments	622
Unusual Items	-368
Pension Adjustments	-1,149
Adjusted Pro Forma EBITDA	16,407

Adjusted Debt Breakdown	
FY	
Total unadjusted Debt	56,547
25% Debt financing of Equinix	21,250
Other standard adjustment	-3,058
Total adjusted pro forma debt	72,293
Moody's adjusted Pro Forma debt to EBITDA	4.56x

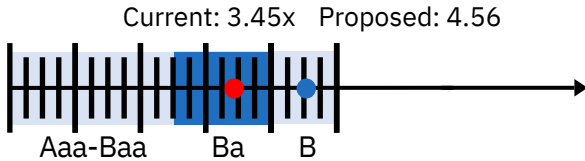
DOWNGRADE to Ca



DOWNGRADE to B



DOWNGRADE to B



Sources: (Moody's Methodology (Moody's 2024)), (S&P Global (Criteria, Corporates, 2024))

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Acquisition Feasibility Analysis | Privacy Laws



International Privacy Law Risks

Equinix IPL Risk

In 2020, Equinix was hit by a ransomware lasting 1 month, for \$4.5 MM. This affected financial information payroll accounting audits and data center reports.

Data Sovereignty

Data Sovereignty is the notion that any digitalized and localized data that has been put into binary form is subject to jurisdiction of the country it resides in. Bound by law, the company who oversees the caretaking of such data is subject to the penalties of the country it is localized in.

Equinix Risk Management Strategy

Equinix has taken the liberty to implement their own Infosec governance risk compliance program. The GRC program entails a reduced cybersecurity risk due to the implementation of a centralized platform used to address their key business requirements as mentioned on slide #44.

More customers...

Means more liabilities ...

Resulting in a need for heightened security...

IBM IPL Risk

According to IBM, avg time to identify a breach in 2022 was 277 days

Data Privacy

Data Privacy entails the complete protection of an individual's personal data from third parties. It also includes the ability for said individual to determine exactly who can and cannot access their data.

IBM Risk Management Strategy

IBM works with their clients to reduce data security risks through developing personalized security strategies with customers, synthesizing a legitimate plan to spread awareness of data privacy risks, and consistently updating their security architecture.

Source: (Data Center Dynamics, 2021), (IBM, 2024), (Imperva, 2024), (Equinix Corporate Sustainability (Equinix, 2024))

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Acquisition Feasibility Analysis | Sustainability



Equinix’s sustainability past and future

On the Forefront of Sustainability:



E Q U I N I X

- ❖ Both IBM and Equinix seek to be net carbon neutral by 2030.
- ❖ AI software can create more sustainable operations and supply chains.
- ❖ Expects to divert 90% of non-hazardous waste from land fill to incineration

- ❖ Fifth year in a row with 90%+ renewable energy
- ❖ \$45 million invested in 2022 for sustainability
- ❖ 23% reduction in operational emissions
- ❖ Achieved a CDP Climate Rating of A for the first time in 2022

Sustainability awards won by Equinix 2022:

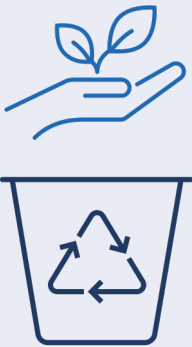


Source: (Equinix, 2024), (Sustainbletchpartner, 2024)

Equinix sustainability goals

Environment

- ❖ Driving global operations and value chain emissions down
- ❖ Go from 96% to 100% usage of renewable energy
- ❖ Invest resource conservation data centers



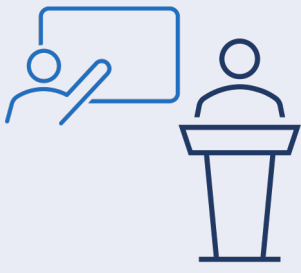
Social

- ❖ Build an inclusive and diverse work environment
- ❖ Promote good health and emotional wellbeing towards all employees
- ❖ Remove barrier between communities and the digital world



Governance

- ❖ Strive to practice business ethically and be a leading example for the world
- ❖ Build partnerships and cultivate innovation
- ❖ Integrate sustainability into the framework of business practices



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Acquisition Feasibility Analysis | REIT Status



Importance of Equinix’s REIT structure

REIT Synergy

Financial Benefits



- ❖ A **20%** deduction on pass through income is given to REITs till 2025
- ❖ REIT’s typically do not pay corporate income tax because their earnings have been passed along as dividends

Financial Drawbacks



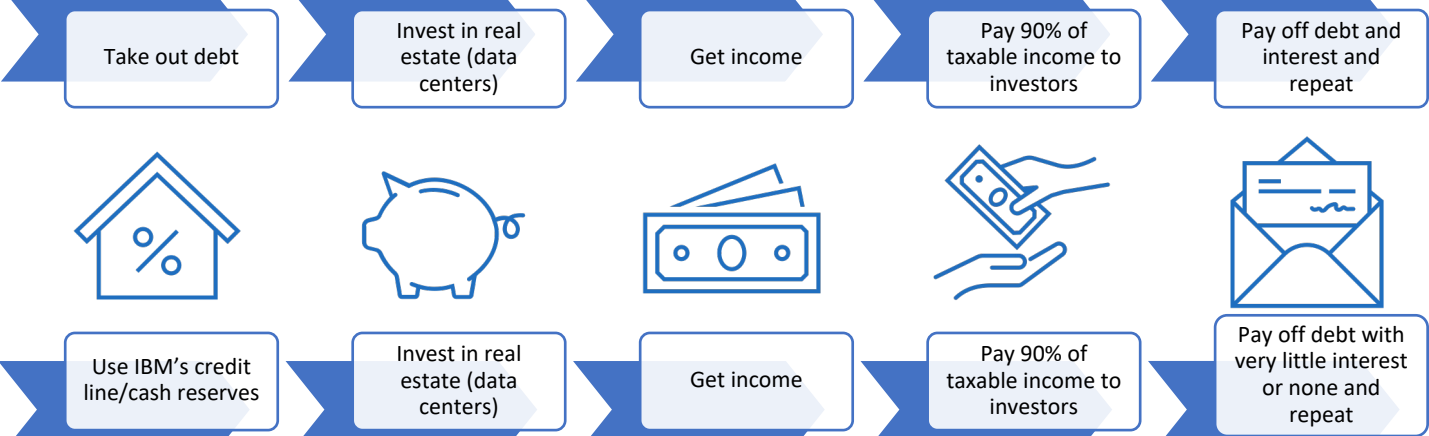
- ❖ When filed as a REIT, **90%** of your taxable income must be paid to shareholders as dividends
- ❖ Any investor of a REIT outside of the U.S. is subject to a **30%** withholding tax
- ❖ A REIT cannot deduct interest it pays on debt financing



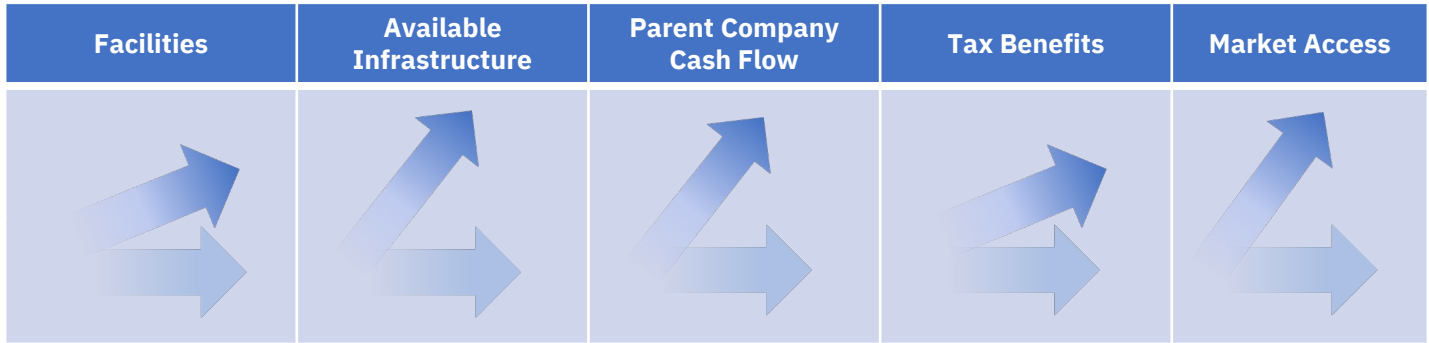
Pre-IBM:

Post-IBM:

Average REIT business cycle



REIT business cycle when backed by IBM



Source: (Investopedia, 2021)

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Acquisition Feasibility Analysis | Debt to Equity



Proposed acquisition financing

Debt Financing		Equity Financing		Equity/Cash Hybrid	
<ul style="list-style-type: none">Financing this acquisition with 100% debt using 10-year notes (4.94%) would have massive implications that would negatively effect IBM's leverage ratiosIn reference to slide #51, it can be seen that an increase in Debt-to-EBITDA of 4.99x would occur as a result of this influx of debtA gain of this size in Debt-to-EBITDA would result in IBM's credit worthiness being downgrades to Ca		<ul style="list-style-type: none">By financing this acquisition with 100% equity, IBM would have to issue 432 million common shares resulting in a 30% decrease in pro forma EPSThe cost of equity financing for IT providers is relatively low. The industry average cost of equity of 8.16% compared to the total market average of 8.48%Due to the financial position of the company, investors may see financing through equity as more fit, as the company's debt standing as deficient compared to their market position		<ul style="list-style-type: none">Financing this \$85 billion acquisition through 45% debt and 55% equity would result in a 22% decrease in pro forma EPSUsing a combination of debt and equity allows IBM to benefit from both instruments. The company manages to retain ownership of their own company all while keeping their cost of capital.This is the most favorable model for this acquisition. However, the size of the deal is still massively too large to reduce the structural negatives	
Risks	<ul style="list-style-type: none">✗ Credit Rating downgrade is certain✗ Substantial leverage is necessary to acquire a business with forecasts yielding insufficient returns✗ Risk of default grows, in turn straining relations with investors		<ul style="list-style-type: none">✗ Institutions hold around 56.93% of shares, leaving a multitude of investors to be negotiated with and institutional investors feeling the pressure of the dilutive effect✗ The required issuance of 432 million shares for a 100% equity financing would be equivalent to ≈43% of pro forma shares outstanding		<ul style="list-style-type: none">✗ Even with a minimal cash assumption of 1%, IBM would still be required to fork over \$857 million✗ IBM's on-hand cash and cash equivalents are not sufficient to purchase Equinix✗ Even if IBM used all their available cash (\$13Bn), they would still need to raise ≈ \$72 Bn to purchase Equinix
	<ul style="list-style-type: none">✓ Dilution effect, not felt by shareholders✓ Tax deductibility of interest expense creates an advantage to corporate taxes following D&A write-ups✓ IBM has repertoire in the market which gives them negotiating power with investors		<ul style="list-style-type: none">✓ 100% equity financing would not affect IBM's credit rating✓ No individual investor holds more than 0.053% of shares meaning dilutive effect would not be felt on the individual basis✓ Financing through equity is cheaper than through debt due to the avoidance of interest expense		<ul style="list-style-type: none">✓ The debt incurred by 100% debt financing is reduced and therefore so is the risk of default✓ WACC is minimally affected. The considered limits for debt and equity financing are not yet reached

Source: (Refintiv, 2024), (10-K(IBM, 2024)), (10-K(Equinix, 2024))

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Acquisition Feasibility Analysis | Merger Model



An acquisition of Equinix would dilute IBM’s EPS

Transaction & Financing Assumptions

IBM Financial Profile	
Fully Diluted Shares Outstanding	911
Current Share Price	\$195.95
Equity Value	\$178,511
Forecasted Earnings per Share (EPS) _{t+1}	\$8.75
P/E Multiple	22.4x
Equinix Financial Profile	
Fully Diluted Shares Outstanding	94
Current Share Price	\$910.10
Equity Value	\$85,549
Forecasted Earnings per Share (EPS)	\$11.85
P/E Multiple	76.8x

Transaction & Financing Assumptions

Transaction assumption	
Offer Price per Share	\$1,229
Premium	36%
Offer Value	\$115,600
Cash Consideration (All-Debt Funded)	
Offer Value	\$115,600
% Cash	45%
Total Debt Financing	\$40,460
Financing Fee	\$2,630
Financing Fee % Total debt	6.50%
Borrowing Term	10 Years
Financing Fee Amortization	\$263
% Interest Rate	4.94%
Annual Interest Expense	\$1,999

Accretion/Dilution analysis

Accretion/Dilution Analysis			
Acquirer Stand-alone Net Income	\$7,502	Target stand alone Net Income	\$969
% Tax Rate	13.67%	% Tax Rate	13.67%
Earnings Before Taxes	\$8,528	Earnings Before Tax	\$1,102
Pro forma Financials		Pro Forma EPS	
Consolidated EBT	\$9,629	Pro Forma Net Income	\$6,974
Less: Interest expense & Financing fees	(1,320)	Pre-Deal Acquirer Shares Outstanding	911
Plus: Synergies, net	401	Plus: New Shares Issuance	324
Less: Incremental Depreciation	(632)	Pro Forma Diluted Shares	1,235
Pro Forma Adjusted EBT	\$8,078	Pro Forma EPS	\$5.65
Less: Taxes	\$1,104	% Accretion/Dilution	(35%)
Pro Forma Net Income	\$6,974		

DILUTIVE to Pro Forma EPS
by (35%)

Form of Consideration	
% Stock	55%
% Cash	45%
Stock Consideration	
Offer Value	\$115,600
% Stock	55%
Stock Consideration	\$63,580
Number of Acquirer Shares Issued	324
Deal Assumptions	
Synergies, net	\$401
Transaction Fees	\$2,601
Transaction Fees % Offer Value	2.25%

Price Purchase Accounting	
Offer Value	\$115,600
Less: Net Tangible Book Value	(10,784)
Purchase Premium	\$104,816
Add: PPE Write-Down	2,183
Less: Intangibles Write-Up	(3,778)
Add: Deferred Tax Liabilities	1,540
Goodwill Created	\$104,761
Asset Write-Ups	
% Allocation to PPE	2.08%
Useful Life Assumption	20 years
Incremental Depreciation	\$109
% Allocation to Intangibles	3.60%
Useful Life Assumption	20 years
Incremental Amortization	\$189

Source: (Refintiv, 2024), (10-K(IBM, 2024)), (10-K(Equinix, 2024))

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Alternative Solution

IBM +  **DIGITAL REALTY™**

Alternative Solution | Digital Realty Overview



Digital Realty leadership, disaster recovery, and customer base



CEO Andrew Power

Power has been CEO since 2021. Prior to that, he held the position of CFO since 2015. Before joining Digital Realty, Power worked for Bank of America Merrill Lynch and Citigroup, where he has managed the execution of over \$30 Bn of public and private capital raises included the largest REIT IPO to date.



CFO Matt Mercier

First joining Digital Realty in 2006, Mercier became the Senior VP of Global Finance and Accounting. Prior to his current position, Mercier was employed with Equity Office Properties Trust in asset management and before that worked in auditing at KPMG.



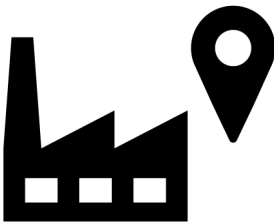
CIO Greg Wright

Wright currently manages Digital Realty's investments along with other capital allocation activities. Before his current position, Wright was Co-Head of the Americas Real Estate, and Managing Director of the Real Estate, Gaming & Lodging Group at Bank of America Merrill Lynch. During his 25-year career he has completed over \$200 Bn of M&A transactions.

Brief History

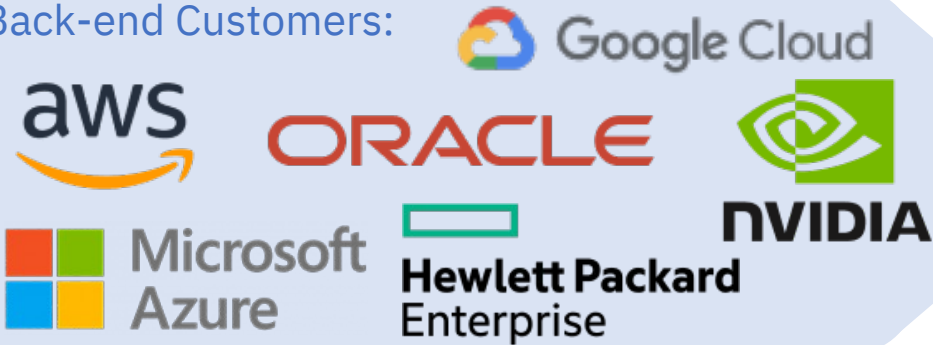
Digital Realty Trust (DLR) is a data center and colocation REIT. It was first founded in 2004 by a group of executive in the telecommunications and real estate industries. In 2007, they released their IPO and became the first publicly traded data center REIT. Their largest acquisition to date is the purchase of DuPont Fabros Technology in 2018 which helped them expand into central and east coast regions of the U.S. The Vanguard Group, Inc. is their largest stakeholder with an 11.3% share.

Front-End Customers:



Product User

Back-end Customers:



Producers

Source: (Digital Realty, 2024), (Enlyft 2024), (DCF, 2024)

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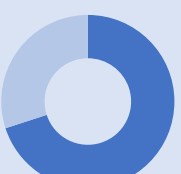











Alternative Solution

Conclusion

Alternative Solution | Digital Realty Alignment to IBM



Digital Realty is the industry’s best fit for IBM

Company	Product Alignment	Strategic Alignment	Acquisition Feasibility	Rational	Decision
 DIGITALBRIDGE				<p><u>Product</u>: Investment in domestic and international private tech companies.</p> <p><u>Strategy</u>: Find a growing company, buy a majority investment, and let them flourish.</p> <p><u>Acquisition Feasibility</u>: Moderate, lots of assets, valued fairly. Wide portfolio, does not operate the companies.</p>	
 IRON MOUNTAIN®				<p><u>Product</u>: Paper Document Digitalization & Storage of Such.</p> <p><u>Strategy</u>: Management of lifetime company documents</p> <p><u>Acquisition Feasibility</u>: Good, one of the oldest data warehouses, priced fairly, does not have a large enough stance in the colocation industry.</p>	
 NEXTDC				<p><u>Product</u>: Australian data center and colocation services</p> <p><u>Strategy</u>: Intra-Australia Data centers</p> <p><u>Acquisition Feasibility</u>: moderate, low cost for acquisition, mediocre revenue, exclusive to Australia.</p>	
 DIGITAL REALTY®				<p><u>Product</u>: Wholes Data center REIT and colocation services.</p> <p><u>Strategy</u>: Wholesale leasing of data centers along with usage of colocation service in tandem</p> <p><u>Acquisition Feasibility</u>: Very good, higher cost, good return on assets (relative to industry), large amount of data centers, their aim aligns with IBM.</p> <p>Best Fit</p>	

Yes Feasibility/Alignment 
No Feasibility/Alignment 

Source: (Digital Realty, 2024), (Enftft 2024), (DCF, 2024)

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What is Digital Realty’s future vision?

- ❖ DLR continues expansion into new markets to satisfy increased demand for hyper scaling and AI customers
- ❖ DLR plans on expanding the use of Apollo AI to optimize productivity and ESG

How will this be achieved?

- ❖ DLR’s 2023 joint ventures allowed the conversion of leverage to cash, giving DLR liquidity for future ventures in high demand regions
- ❖ DLR expects 900 MW of new capacity by 2026 to be allocated to its customers

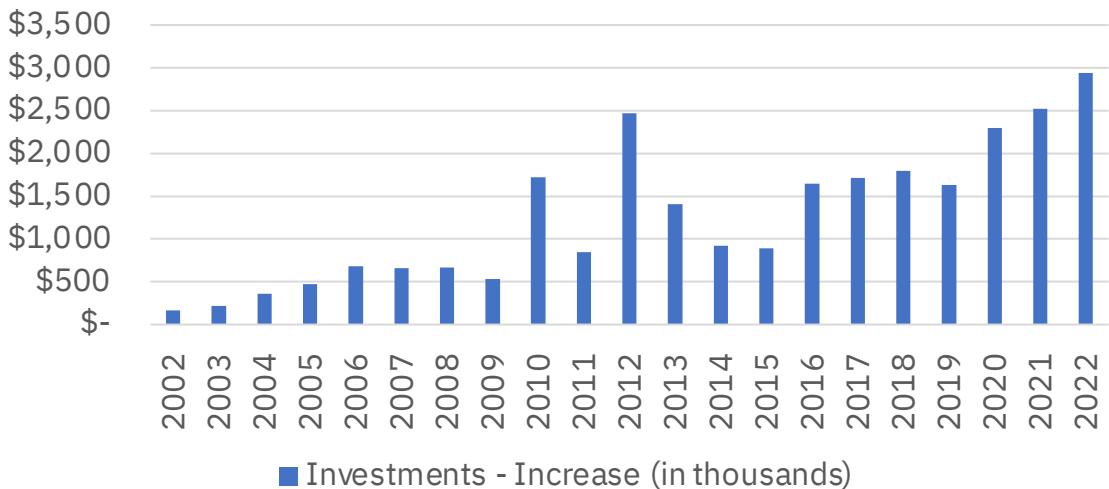
How Can DLR satisfy IBM’s cloud infrastructure and AI needs?

- ❖ If IBM were to merge with DLR, then IBM can leverage DLR’s DC & colocation service infrastructure, Platform DIGITAL, and integrate its system satisfying the privacy/latency needs of customers
- ❖ DLR’s experience with AI service providers coupled with high-density colocation offering makes DLR fit for IBM’s future vision

DLR Expansion

- ❖ DLR is focusing on meeting heightened demands from AI and hyperscale this allows for higher prices
- ❖ DLR is shooting for 900 MW of new capacity by 2026
- ❖ AI service providers already use platform digital’s high-density colocation offering to expand AI as a service, proving that IBM’s expansion of watsonx™ in DLR DCs is feasible

DLR Annual Increase in Investments



Source: (The Motley Fool, Q4 Earnings Call, 2024) Source: (Digital Realty, 2024), (Enlyft 2024), (DCF, 2024)

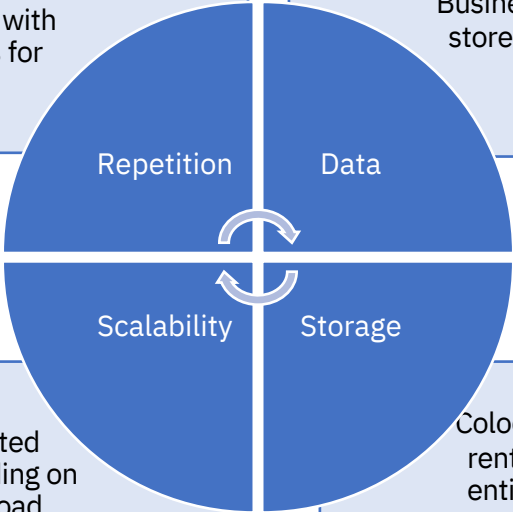
Alternative Solution | Digital Realty Synergies



Digital Realty REIT status and HW feasibility

Companies can rent out the space with marginal risks for years on end

Businesses need to store their data



Companies receive allocated space depending on their system load

Colocation services rent our cages or entire warehouses



PLATFORMDIGITAL®

PlatformDigital is Digital Realty’s premier data center platform which serves as a hub of data collaboration and provides comprehensive business solutions. Some of DLR’s DCs already contain IBM Cloud Infrastructure.

Wholesale Data Center REIT

- ❖ Power cost are pushed onto the tenant
- ❖ Entire data center is rented out to 1 tenant
- ❖ Better for large companies

Retail Data Center REIT

- ❖ Power costs are included in pricing
- ❖ 1 data center is rented out too many tenants
- ❖ Better for smaller companies

The combination of DLR’s high intensity colocation offering and the Nvidia DGH X100, the best AI processing server, making DLR a great fit for IBM’s vision for watsonx.



DLR + IBM Cloud MCDC Distribution



In addition to the synergies with clouds and AI, the vast amount of DCs can be utilized for quantum computing data storage in the future for IBM. DLR already specializes in wholesale data storage, Quantum computing requires copious amounts of storage, more data means it can advance further.

Source: (Nvidia, 2018), (Digital Realty, 2024)

Alternative Solution | Digital Realty vs. Equinix



Table comparing important aspects of DLR and EQIX

 DIGITAL REALTY™		 EQUINIX
300+ (52.3M NRSF)	# of Data Centers	260 (29.8M NRSF)
\$892.54/Sf	Price/NRSF	\$2889.60/Sf
\$1,634.78 MM	Operating cash flow 2023	\$3,216.6 MM
1.56%	ROIC 2023	4.66%
17.62%	NTM ROIC	1.21%
2.53	Asset/Debt	2.04
23.9	EV/EBITDA	26.91
2.22%	ROA	3.08%

Source: (10-K (Digital Realty, 2024)), (10-K (Equinix Inc. 2024)), (Refinitiv, 2024), Source: (Digital Realty, 2024), (Enlyft 2024), (DCF, 2024)

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Alternative Solution | Digital Realty Sustainability



Digital Realty’s sustainability efforts and disaster recovery

DLR’s Environmental Reputation

- ❖ DLR is an industry leader in ESG ranked 8th on the US EPA's Green Power partnership National Top 100 for renewable energy usage
- ❖ Placed as 2nd on Sustainability Magazine's List of top 10 sustainable data center providers
- ❖ DLR continues to push for better sustainability to improve their carbon footprint and optimize operations with the usage of their AI Apollo

12 million Square feet of portfolio is sustainable building certified

7% reduction in water use since 2020

126 Data Centers matched with 100% renewable energy

1.8 million metric tons of CO2 voided

Renewable Energy Composition

Category	Percentage
Customer sourced renewables	44%
Retail supply contracts	21%
Utility grid mix	17%
Green tariffs	12%
RECs	6%
PPA's	3%
Onsite Solar	2%
Onsite Solar	1%

Disaster Recovery

- ❖ Adequate emergency backup generators
 - ❖ DLR has onsite generators in the event of power disruptions
- ❖ 5-point authentication
 - ❖ All DC buildings require 5-point authentication for entry
- ❖ Secure inter-data center cross connects
 - ❖ Cross connect wiring uses industry standard SONET rings for security
- ❖ Dedicated space for each client
- ❖ Emergency fuel reserve contracts
 - ❖ DLR gets priority service from fuel providers to power generators in case of disruption

Source: (Digital Realty ESG report, 2022), (The Motley Fool, Q4 Earnings Call 2024), Source: (Digital Realty, 2024), (Enlyft 2024), (DCF, 2024)

Alternative Solution | Digital Realty Revenue

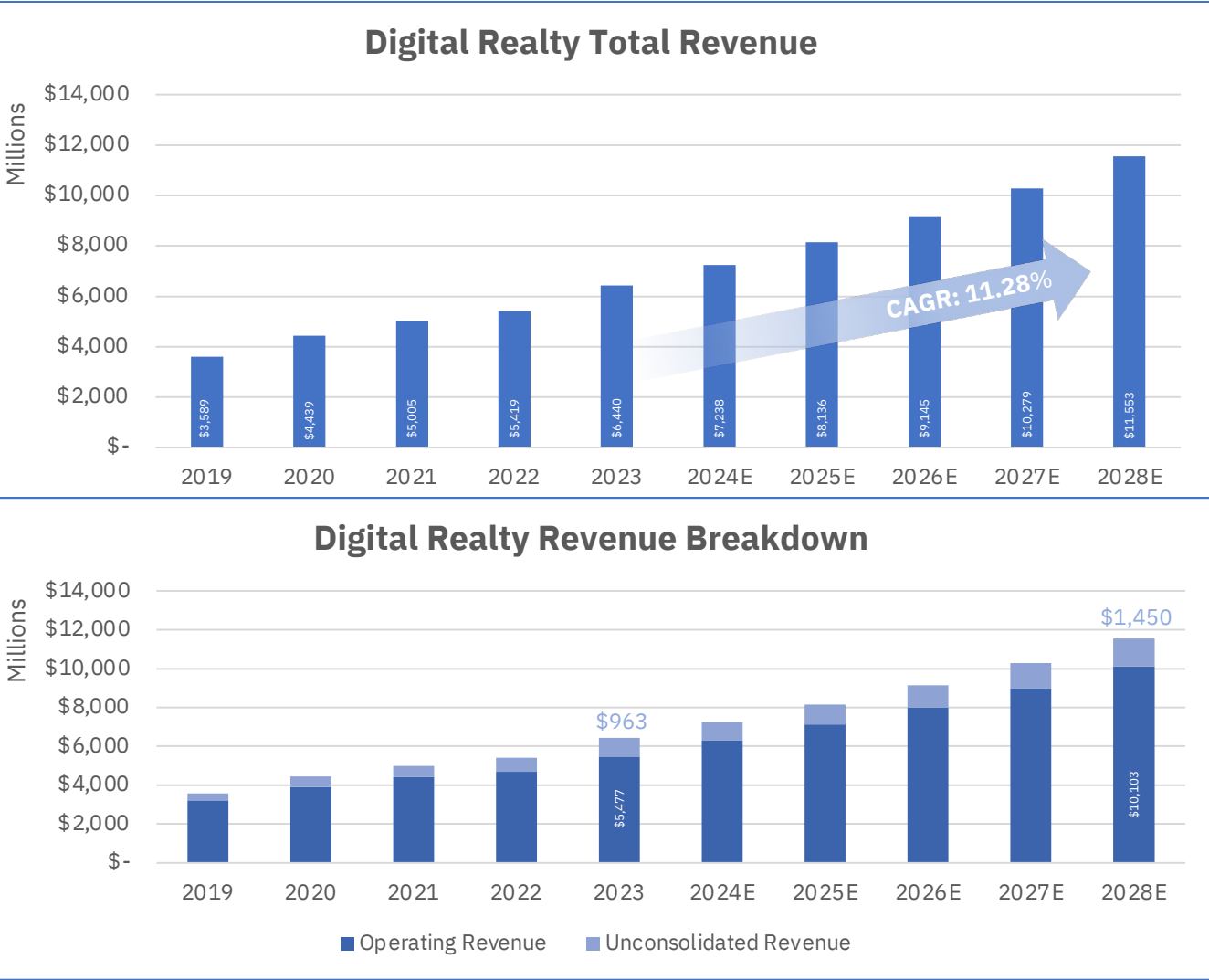


Digital Realty’s stability and growth

DLR Revenue Analysis

Most of the Digital Realty’s revenue comes from its operations. Operations include **colocation services**, **digital infrastructure**, and **wholesale DC leasing**. With the REIT requirements including 75% of income coming from recurring revenue causing **revenue streams from operations to remain stable**. The wholesale aspect of DLRs business model could lead to the instability of revenue in the future due to the weight of each individual customer. However, the diversity of DLR’s customer base and the focus on long term clients, it should not be a concern for investors.

Revenue YoY growth			
2019*	2020*	2021*	2022*
▼	▲	▲	▼
-0.84%	1.16%	6.28%	-5.46%
(Regular Business cycle YoY growth) * estimated value (Statista.com)			



Source: (Digital Realty, 2024), (Enlyft 2024), (DCF, 2024)

Alternative Solution | Digital Realty DCF



Valuation of Digital Realty

Fiscal Year	2022	2023	2024	2025	2026	2027	2028
Fiscal Year end date	12/30/22	12/30/23	12/30/24	12/30/25	12/30/26	12/30/27	12/30/28
Revenue	4,692	5,477	6,095	6,783	7,548	8,400	9,347
% growth			11.28%	11.29%	11.28%	11.29%	11.27%
Gross Profit	2,465	2,780	2,942	3,273	3,643	4,054	4,511
% margin			48.27%	48.25%	48.26%	48.26%	48.26%
Operating Income	662	704	983	1,094	1,217	1,355	1,507
% margin			16.13%	16.13%	16.12%	16.13%	16.12%
Corporate Tax			159	176	196	219	243
After-Tax EBIT	630	629	824	917	1,021	1,136	1,264
Depreciation & Amortization			2,327	2,589	2,904	3,263	3,047
Maintenance CapEX			2,663	2,663	2,663	2,663	2,663
Unlevered FCF			489	843	1,262	1,737	1,648
% growth				72.39%	49.70%	37.64%	-5.12%
Discount Factor			92.60%	85.75%	79.40%	73.52%	68.08%
Present Value of Unlevered FCF			453	723	1,002	1,277	1,122

- ❖ 5-year projection based off historical averages from the past 5 years
- ❖ Assumed CAGR: 11.28%
- ❖ Higher CAGR than comparable companies is as result of expansion focused operations

- ❖ 5- year projection based off historical averages from the past 5 years
- ❖ Assumed % margin: 16.13%

- ❖ 5-year projection based off historical averages from the past 5 years
- ❖ Assumed Tax Rate: 7.37%

Source: (10-K(Digital Realty, 2024)

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Alternative Solution | Digital Realty DCF



Digital Realty sensitivity analysis

Cost of Capital Assumptions			
Pre-tax Cost of Debt		5.2900%	
Tax Rate		7.37%	
Risk Free Rate		4.27%	
Beta (5Y monthly)		0.56	
Market Risk Premium		11.68%	
Cost of Debt			
Pre-Tax Cost of Debt		5.2900%	
Tax Rate		7.37%	
After-tax Cost of Debt		4.90%	
Cost of Equity			
Risk Free Rate		4.27%	
Beta		0.56	
Market Risk Premium		11.68%	
Cost of Equity		10.81%	
Cost of Capital (WACC)			
Capital Weights			
	Amount	% of Total	
Market Value of Equity	\$ 19,117,534.00	52.31%	
Market Value of Debt	\$ 17,425,907.00	47.69%	
Cost of Capital (WACC)		7.99%	

Exit Multiple and Gordon Growth Sensitivity Analysis

Equity Value per Share

Exit Multiple Approach						
		17.91x	19.91x	21.91x	23.91x	25.91x
WACC	6.99	226.20	255.42	284.65	313.88	343.11
	7.49	225.96	255.18	284.41	313.64	342.87
	7.99	225.72	254.95	284.18	313.41	342.63
	8.49	225.49	254.72	283.95	313.18	342.40
	8.99	225.27	254.50	283.72	312.95	342.18
Gordon Growth Approach						
		2.1%	2.6%	3.1%	3.6%	4.1%
WACC	7.59	152.69	172.60	196.94	227.38	266.54
	7.79	144.29	162.62	184.86	212.40	247.41
	7.99	136.47	153.40	173.78	198.81	230.27
	8.19	129.18	144.85	163.59	186.42	214.83
	8.39	122.36	136.90	154.18	175.07	200.84

- ❖ Weighted Average Cost of Capital represents the average amount of each dollar of funding that must be returned to shareholders and lenders (\$0.07992)
- ❖ Digital Realty's WACC OF 7.99% also represents the discount rate in the company's DCF analysis

Source: (10-K)(Digital Realty, 2024)

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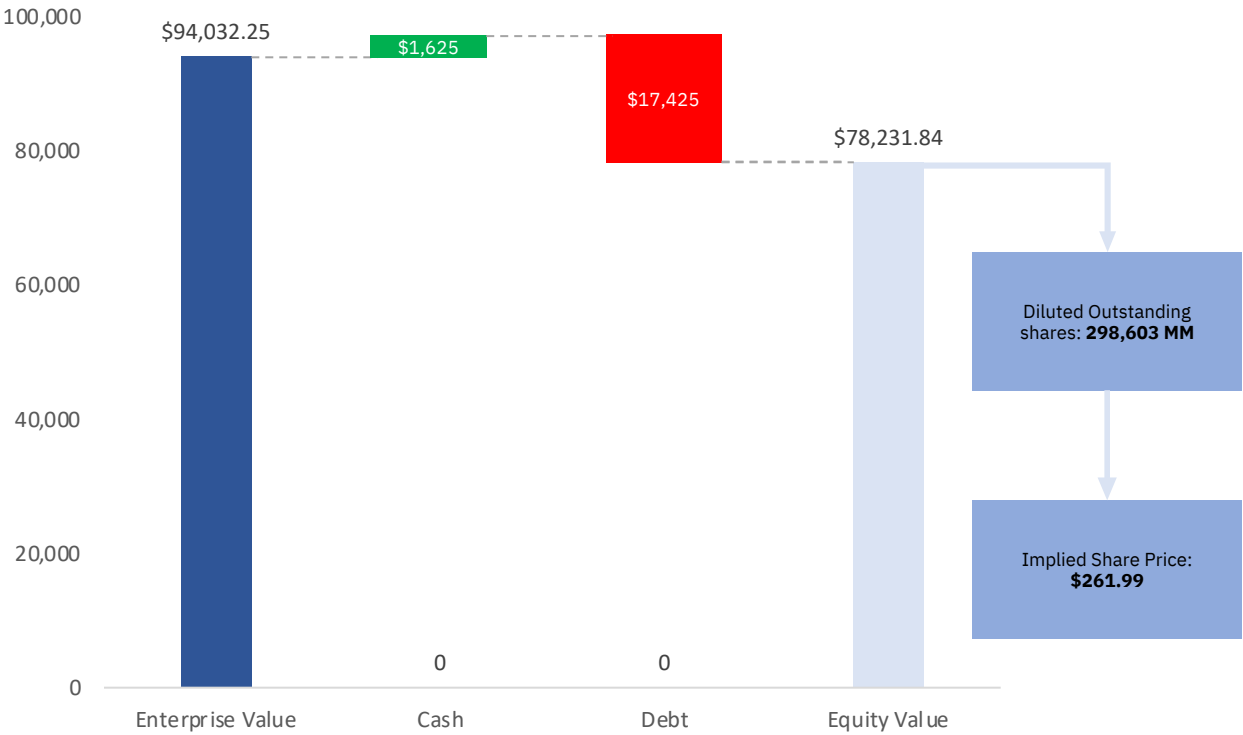
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Alternative Solution | Digital Realty DCF



Digital Realty value bridge and football field

Enterprise to Equity Value Bridge



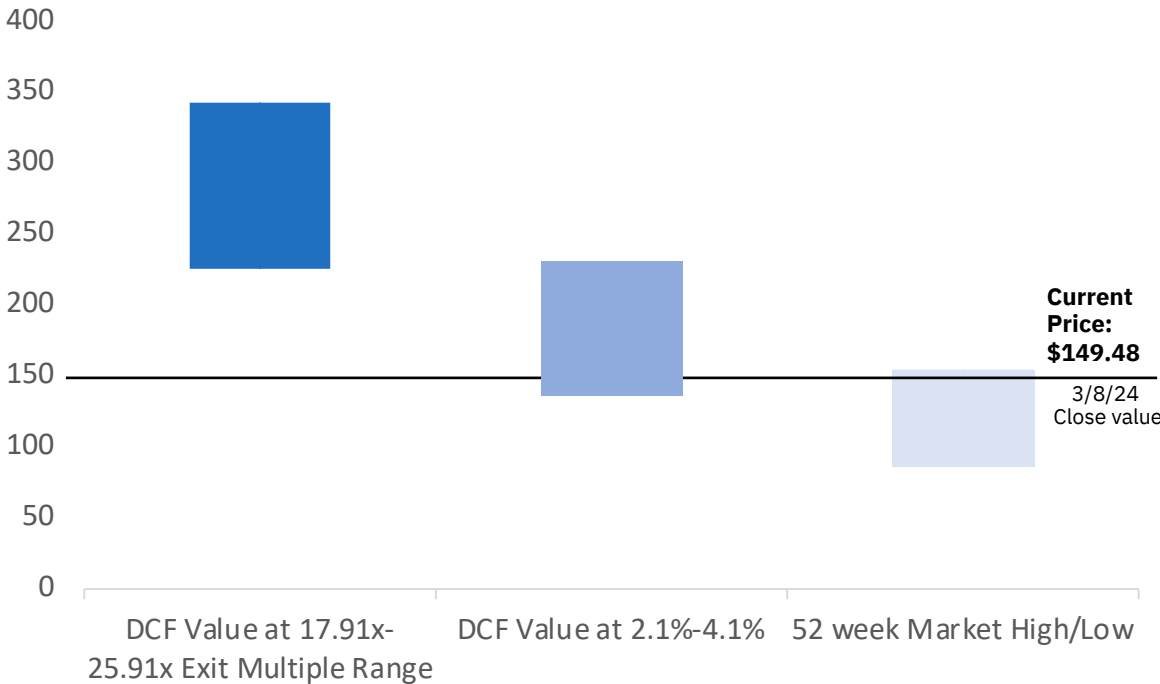
Current Enterprise Value: \$94.032 Bn

+ Cash and Cash Equivalents: \$1.625 Bn

- Total Debt: \$17.425 Bn

Equity Value: \$78.232 Bn

Football Field



Current Enterprise Value via Gordon Growth Approach: **72.416 Bn**

Current Enterprise Value via Exit Multiple Approach: **106.816 Bn**

DLR's **DCF analysis** concludes that the firm is **overvalued** in relation to its current market valuation

Source: (Refintiv, 2024), (10-K(IBM, 2024)), (10-K(Equinix, 2024))

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Alternative Solution | Digital Realty Post Acquisition



Integration of IBM infrastructure into Digital Realty

Integration of Cloud and Data center connectivity services

IBM Cloud and AI

- ❖ Wide ranging Cloud services and infrastructure
- ❖ watsonx™ and other SaaS options

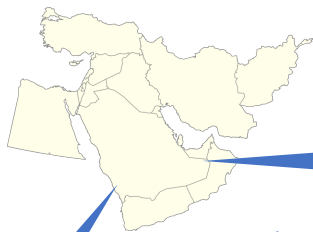
Combination

- ❖ Combined cloud, SaaS and DC package with new market reach
- ❖ Strengthened customer relations

Digital Realty

- ❖ Global data center infrastructure and market presence
- ❖ Expertise in data center design and operation

Easy expansion into new markets



UAE DC investment is projected to grow 56% by 2029

The mega projects funded by Saudi's sovereign fund PIF will lead to increased demand for cloud and DC services

- ❖ Middle Eastern IT infrastructure market is expanding at a rapid pace
- ❖ IBM's strong presence in the Middle East and adequate resources paves the way for data center expansion with DLR's expertise

Further Development for watsonx

- ❖ The new global DC network would allow for sufficient storage for future development of watsonx™
- ❖ Lead to decreased latency and bring data centers closer to the edge



Similar Customers and Partners

- ❖ IBM and Digital Realty have similar clientele
- ❖ The joint companies will allow for optimal overall service and elevated control of the cloud computing space



IBM breaching new territory

- ❖ South America and Africa are relatively untouched land for colocation.
- ❖ IBM does not have a large market share in any of these regions and acquiring DLR would change that.
- ❖ DLR has 26 DCs in Brazil, 3 in Chile, and 3 in Mexico.
- ❖ In Africa, they have 7 in South Africa, 4 in Kenya, 2 in Nigeria, and 1 in Ghana.
- ❖ This would give IBM an advantage in the quickly growing data race.

Source: (Ariston, 2024), (LinkedIn, 2023)

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Conclusion

A photograph of a modern, multi-story building with large glass windows and a flat roof, captured at dusk. The building's interior lights are on, and the sky is a deep blue. A semi-transparent white rectangular box is overlaid on the left side of the image, containing the word "Conclusion" in a large, black, sans-serif font. The foreground shows a paved area, some landscaping with small trees, and a set of stairs leading to the building's entrance.

Conclusion | IBM and Digital Realty

Upsides of acquiring Digital Realty



Digital Realty
Product
Integration

Digital Realty offers data center and colocation services. They are a wholesale data center REIT that uses colocation to achieve edge computing. Their infrastructure is designed to be bought out by a company with large cash flows and a gear in AI. IBM finds itself perfectly placed to take on this parent company role. With its emphasis on the generative business ai watsonx™, subsequent interest in expansion of its abilities, and future outlook with quantum computing, who better than IBM.

Financial
synergies
IBM & DLR

Digital Realty has 1.4 billion in net cash flow and is valued at a purchase price 78.232 Bn and they have immense resources for IBM to take advantage of such as Wholesale Data centers. With IBM financial backing, expansion of watsonx is endless

Upside of
picking DLR
over EQIX

Digital Realty has an Enterprise value of \$94,032,248,310, 20Bn less than Equinix, yet they have half the market cap. Indicating a large value within the data center REIT market.

Quantum
Computing
& AI

Digital Realty furthers the potential of quantum computing and AI

Upside of the
opportunities
that arise

With expansion of watsonx™, and feasibility of digital realty data centers of expansion with IBM’s quantum compiuting scheme will open the door for large profit in the future. IBM can further their digital infrastructure with the new data

Conclusion

To achieve an expanded digital infrastructure, IBM must take a dilutive hit to their shares, this hit would be greatly reduced by choosing DLR.

Source: (Digital Realty, 2024), (Enlyft 2024), (DCF, 2024)

A modern office interior with a large wooden conference table in the foreground, several people working at desks, and a large window in the background. The scene is dimly lit with blue and yellow tones. The word "Appendix" is overlaid in a large, white, sans-serif font.

Appendix

Appendix | IBM and Digital Realty Merger Model



An acquisition of DLR would be significantly less dilutive to IBM’s EPS than an acquisition of Equinix

Transaction & Financing Assumptions

IBM Financial Profile	
Fully Diluted Shares Outstanding	922
Current Share Price	\$195.95
Equity Value	\$178,511
Forecasted Earnings per Share (EPS) _{t+1}	\$8.75
P/E Multiple	22.4x

Digital Realty Financial Profile	
Fully Diluted Shares Outstanding	199
Current Share Price	\$149.48
Equity Value	\$29,747
Forecasted Earnings per Share (EPS)	\$6.5
P/E Multiple	23.0x

Transaction & Financing Assumptions

Transaction assumption	
Offer Price per Share	\$650.00
Premium	30%
Offer Value	\$61,100

Cash Consideration (All-Debt Funded)	
Offer Value	\$61,100
% Cash	55%
Total Debt Financing	\$33,605
Financing Fee	\$2,184
Financing Fee % Total debt	6.50%
Borrowing Term	10 Years
Financing Fee Amortization	\$218
% Interest Rate	4.94%
Annual Interest Expense	\$1,660

Accretion/Dilution analysis

Accretion/Dilution Analysis			
Acquirer Stand-alone Net Income	\$7,502	Target stand alone Net Income	\$950
% Tax Rate	13.67%	% Tax Rate	13.67%
Earnings Before Taxes	\$8,528	Earnings Before Tax	\$1,080

Pro forma Financials	
Consolidated EBT	\$9,607
Less: Interest expense & Financing fees	(985)
Plus: Synergies, net	695
Less: Incremental Depreciation	(716)
Pro Forma Adjusted EBT	\$8,602
Less: Taxes	\$1,176
Pro Forma Net Income	\$7,426

Pro Forma EPS	
Pro Forma Net Income	\$7,425.56
Pre-Deal Acquirer Shares Outstanding	911
Plus: New Shares Issuance	140
Pro Forma Diluted Shares	1,051

Pro Forma EPS	\$7.07
% Accretion/Dilution	(19%)

DILUTIVE to Pro Forma EPS
by (19%)

Form of Consideration	
% Stock	45%
% Cash	55%

Stock Consideration	
Offer Value	\$61,100
% Stock	45%
Stock Consideration	\$27,495
Number of Acquirer Shares Issued	140

Deal Assumptions	
Synergies, net	\$695
Transaction Fees	\$1,375
Transaction Fees % Offer Value	2.25%

Price Purchase Accounting	
Offer Value	\$61,100
Less: Net Tangible Book Value	(16,614)
Purchase Premium	\$44,486
Add: PPE Write-Down	2,491
Add: Intangibles Write-Down	534
Add: Deferred Tax Liabilities	2,297
Goodwill Created	\$49,808

Asset Write-Ups	
% Allocation to PPE	5.6%
Useful Life Assumption	20 years
Incremental Depreciation	\$125
% Allocation to Intangibles	1.2%
Useful Life Assumption	20 years
Incremental Amortization	\$28

Source: (Refintiv, 2024), (10-K(IBM, 2024)), (10-K(Digital Realty, 2024))

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