



Equinix Analyst Report

2017-2018 Student Managed Fund
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Figure 1: Revenue Mix

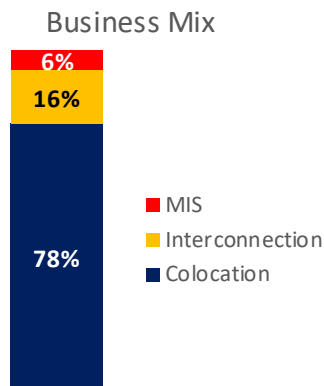


Figure 2: Industry Verticals

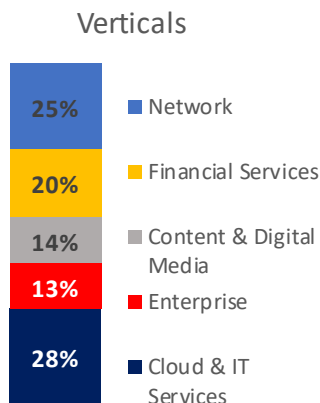
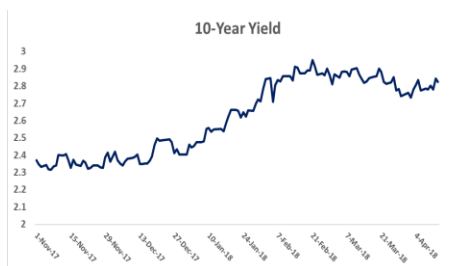


Figure 4: 10-Year Treasury Yield



Company Overview

Business Description

Equinix is a data center operator, structured as a real estate investment trust (REIT). Their key service offering is colocation – leasing rack space for customers to place servers and other cloud computing equipment, while providing cooling, power, and security. Their second major line of business is interconnection services, where customers pay for each megabit of traffic exchanged within the data center among carriers, enterprise customers, and the public cloud through public and private peering. Colocation accounts for 78% of revenue while interconnections account for 16%. The remaining 6% is MIS consisting of managed services only available in select regions.

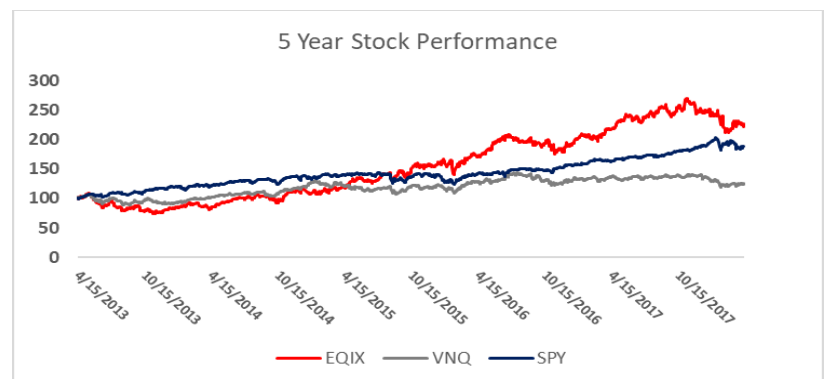
With technological changes, companies now exchange data, content, internet services, and cloud storage. Equinix has grown a healthy customer mix consisting of five verticals: 25% network providers such as AT&T, 20% financial services such as Bloomberg, 14% content & digital media such as DirectTV and Netflix, 13% enterprise such as Ford Motors, and 28% cloud & IT such as Amazon Web Services. Hosting these partners within the same data center provides interconnection benefits making the density of partners a distinguishing factor when picking a colocation provider.

The company operates across 21 countries, operating 145 data centers in key metropolitan areas and financial hubs.

Historical Performance

Over an indexed five-year horizon including dividends, Equinix outperformed the S&P 500 Index (SPY) and Vanguard REIT Index (VNQ).

Figure 3: Historical Stock Performance



A recent downtrend in the stock occurred in late January of 2018. This came after the announcement of further rate hikes and rising Treasury yields unfairly hurt EQIX. The sell-off in “bond-proxy”



Figure 5: Key Metrics

Key Metrics	
Market Cap	\$31.99 Bn
Dividend Yield	2.24%
Current Price (4/13)	\$404.04
52 Week Range	\$370.79-495.35
YTD Performance	-14.06%
1-Year Performance	3.09%

Figure 6: Fragmented industry will lead to more consolidation

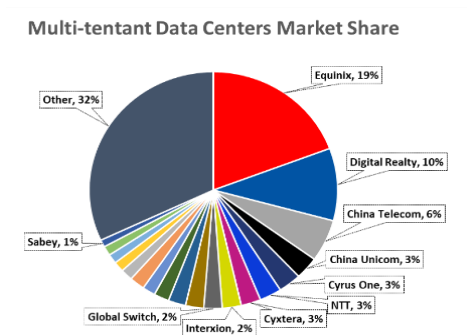
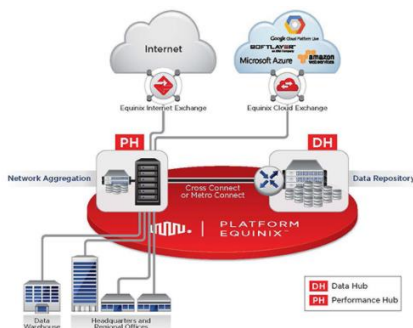


Figure 7: Cloud, Internet, Network and Data Hub



stocks such as REITs and utilities, prompted a strong buying opportunity. EQIX followed the REIT sell-off, but the stock supports superior capital appreciation opportunities over other REIT classes.

Business Ecosystem

The success of data centers and Equinix depends on a continually growing business ecosystem. Colocation was initially significant with the advent of the internet, which needed information tracked with specific address codes to arrive at the correct user computer or data base. This created the necessity for telecommunications providers to peer within data centers and share their traffic of information. New interconnection demands have attracted a large suite of customer verticals thus increasing network density and reliance on strong data center ecosystems. Now the industry is more rigorous with colocation marketplaces such as UpStack and CloudScene delivering information about data centers and interconnection partner opportunities. Equinix Marketplace provides similar information, helpful for companies looking to expand across other regions or find key partners. Differentiating Equinix from other data center REITs is their specialized services in network fabric connectivity and software networking. Equinix's added interconnection business is a competitive advantage over smaller data centers that depend on third-party providers such as Megaport and Packet Fiber. This additional service will become an increasingly important revenue driver as interconnection density grows.

Colocation Enablers

Certain enablers are facilitating the ability for enterprises to colocate. Traditionally, many companies held their data servers in-house, but the trend is shifting towards hybrid IT. In the industry, IT consulting firms such as Accenture and Gartner create referrals as part of their total customer solution. Technology services distributors such as Intelisys are also expanding with the ability to connect customers to sales agents to technology services, internet, and cloud providers. This third-party agent community also generates referrals. Other managed services providers consist of telecoms that act as resellers when they connect their enterprise clients to Equinix. Another important element are Equinix's 14 cloud providers such as Amazon and Microsoft known as hyperscalers for their massive volumes of server farms. Cloud providers are aggressively ramping-on colocation data centers like Equinix to create an interconnection solutions presence and attract more cloud customers by offering lower latency, identifying a safe location where data can be held, and generating peering connections with other businesses.



Figure 8: Data Center Characteristics

Retail Data Center Characteristics	
Typical Lease Length	1-3 Years
Space Leased	1-25 rack spaces
Interconnection Services	Almost always
Web Hosting Services	Yes
Typical Leased Space	500 Sq. Ft.
Power (Kw)	0-500

Figure 9: Increasing Data Center Interconnection Density

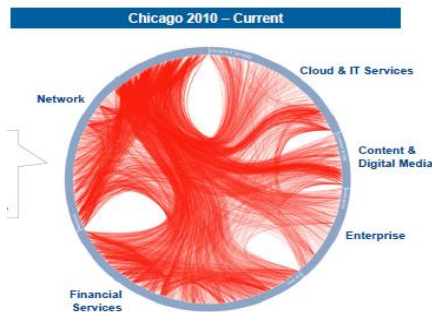


Figure 10: New Opportunities with Hybrid IT

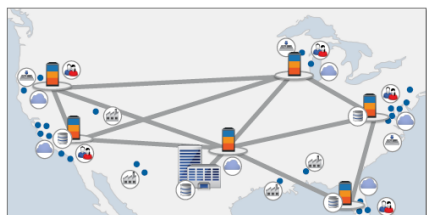
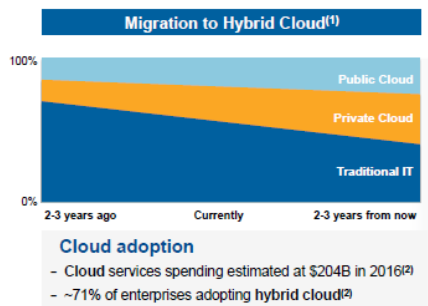


Figure 11: Migration to Hybrid Cloud



Cost Savings & Advantages

Enterprises value the colocation model because leasing data center space is less capital intensive allowing business workflows to expand without building more data center space. Equinix data centers currently have roughly 25% free cabinet capacity for current customers to scale. Businesses and IT budgets can better manage their capital allocation by transitioning from a CapEx to OpEx model. A Credit Suisse report analyzed the cost of installing 8 cabinets with a total of 70kW capacity including upfront building, engineering, power, and environmental costs of building in-house versus colocating for five years. Their results showed that colocating can be 19% to 64% more cost effective than building in-house.

Additionally, colocation introduces a variety of network providers to the new client, granting more services and bargaining power within their interconnections. In one data center there could be multiple internet service providers giving the new client an ability to negotiate lower costs.

Colocation allows for various server hosting arrangements. Customers could manage their own servers ensuring optimal security for sensitive information, managed hosting uses a special administrative provider ideal for companies without IT support in the area, and shared hosting allowing businesses to split server space and save on costs. Colocation adds a layer of personalization that fits each customer's unique business needs that makes for a smoother hybrid IT transition.

Cases for Hybrid Cloud and Colocation

Hybrid IT is a game changer allowing enterprises to locate their data centers at the regional source of users and customers. Having a centralized data center in the past stymied company operations by increasing bandwidth costs and provided a poor user experience. Decentralization reduces user app latency and bandwidth costs up to 40%. The cloud also generates substantial savings and equips enterprises with real-time data analytics in apps like Uber.

Public cloud allows enterprises to send and collect their data over the internet with cloud providers owning the servers and data center. Public cloud has lower upfront costs without requiring enterprises to purchase hardware or provide maintenance. Enterprises also benefit with near-unlimited scalability to meet their business needs.

The private cloud consists of computing resources used exclusively by one enterprise and can be physically located at an on-site data center or third-party provider such as Equinix. The private cloud allows companies to customize their



EQUINIX

Figure 12: EQIX Americas



Figure 13: EQIX EMEA

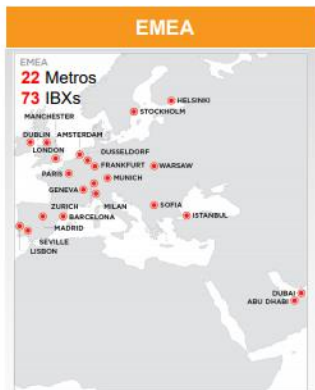
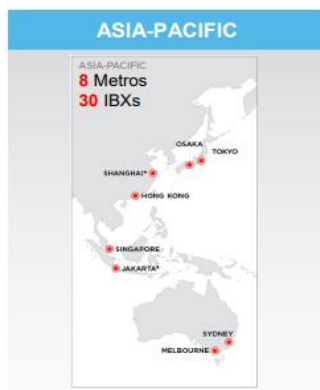


Figure 14: EQIX APAC



systems for greater flexibility, improve their security, eliminate public cloud internet latency, and easily scale by adding more leased cabinet space.

The hybrid cloud plays at the center of Equinix's colocation and interconnections allowing enterprises to combine the best of public and private cloud. Enterprises can colocate their private infrastructure for information sensitive data while combining the flexibility of the public cloud. Hybrid proves cost effective over the traditional in-house data center model by allowing businesses to scale workloads economically.

Competitive Advantages

Global Footprint

EQIX has established a critical mass of customers across continents, with an unmatched global scale comprising of 190 data centers in 48 metro areas and 24 countries with 176,000+ cross connects. Its large footprint attracts businesses with global demands. 70% of customers are multi-region and 58% participate in all three regions.

High-Quality Data Centers

Equinix's data centers demonstrate operating excellence with a 99.9999%+ uptime record and they provide less than 10 milliseconds latency to more than 90% of the population of North America and Europe. They are regarded as Tier 1 data centers.

Dynamic Business Ecosystem

Data centers are a network good and gain value as more verticals colocate and increase its network density. Equinix has the most cross-connects and key cloud partners to invite attractive interconnection opportunities. Their data centers are positioned in key metropolitan areas that make it very attractive. Financial hubs and large mega-cities especially require low latency for conducting transactions, sending internet data, and managing user apps.

Industry Catalysts

Industry Overview

Equinix competes with roughly 650 other companies across the globe in data center offerings but maintain their position as the largest data center operator in the world. Equinix is unmatched in their global scale and operational diversity, but they do compete with a handful of names within each specific business segment.

In colocation, Equinix competes primarily with major telecommunication carriers including AT&T, CenturyLink, COLT, CyrusOne, and NTT. Recently, there has been a trend of these telecommunication providers focusing on connectivity and exiting the colocation business. This created an opportunity for Equinix to acquire 29 data centers from Verizon in May of 2017 and expand their footprint across the Americas. Telecommunication providers



Figure 15: Well positioned to capture cross-border traffic flows

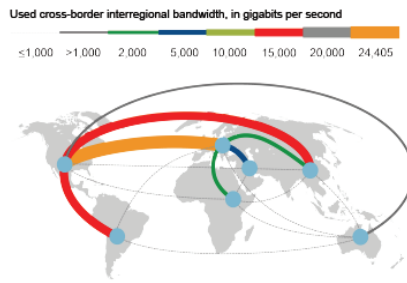
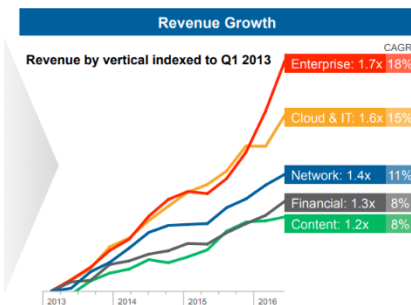


Figure 16: Interconnection



- **277,000+** Cross-connects
- **The most networks, clouds and IT services** companies on one platform
- The world's **largest Internet Exchange** footprint
- Equinix Cloud Exchange **Fabric**
- **9,800+** Customers
- **230+** Fortune 500

Figure 17: Revenue Growth by Vertical



are exiting the colocation business because their data centers aren't network-neutral which means clients only benefit from a limited number of internal network services. Equinix has an advantage over telecom owned data centers by encouraging competition and diversity between internet and network providers all in one data center. One the network-neutral trend continues Equinix may be presented with further opportunities to expand its global footprint over telecommunication data centers.

Within the interconnection service business, Equinix primarily competes with CoreSite, Global Switch, Interxion, Telecity Group, and Telehouse. Equinix has an advantage in the interconnection service space because of their expansive colocation business. Since they house points of presence of over 8,000 companies they can offer better cross connectivity cross sell exchange ports within the data center.

Wholesale is not a core strategy of Equinix because these data centers are lower tiered at discounted pricing selling a large amount of space to select strategic customers. The key competitors in this space are Digital Realty Trust, DuPont Fabros Technology, e-Shelter, and Sentrum.

Managed hosting provides an alternative to the do-it-yourself model in which they manage hardware for their customers. Some competitors in this space include AT&T, CenturyLink, NaviSite, Rackspace, and SunGard.

Drivers of Growth

The data center business is still in its early growth stages, with Equinix being one of its first movers. The industry looks to continue double-digit growth in the future, driven by positive trends in global internet traffic, e-commerce, connected devices, high definition video, and cloud-based storage and services. Equinix's enterprise cloud vertical demonstrated significant growth in the past and looks to be positioned to continue. In the past two years 90% of the world's data was created merely showing how data center demand is bound to take off. Multitenant data centers look to scale the digital world with the help of emerging industry enablers. A Credit Suisse report expect interconnection capacity to growth 61% annually from 2016 to 2020. Specific industries showing the most growth will be banking and insurance, telecommunications, cloud, and manufacturing.

Investment Thesis

Growing Demand

More enterprises are moving to hybrid IT by eliminating their legacy data centers and transitioning to more capital efficient models. Cloud on-ramps are leasing cabinet space within Equinix to establish a point of presence providing tenants in the area a very easy and seamless ability to connect to the public cloud. This drastically reduces connectivity bottlenecks over the internet and



Figure 18: Customer Value

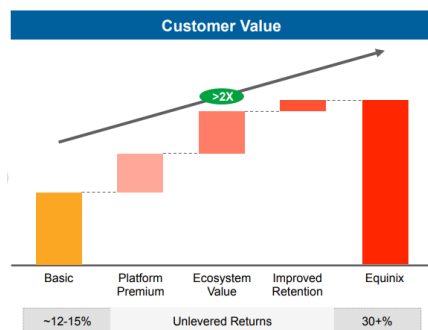


Figure 19: Global Reach

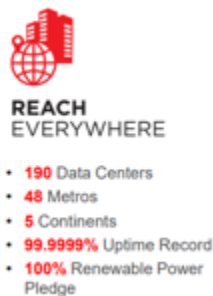


Figure 20: Integration



will invite more enterprises to colocate. As of now Amazon Web Services lead the pack with 66 ramp-on points of presence across data centers. Cloud providers will continue to increase their ramp-on presence and facilitate hybrid IT adoption.

As more data gets used in today's digital age, more content providers will look for capital efficient ways of storing data and transmitting it to users. Now more than ever, users are watching high content videos and entertainment over the internet which requires complex supplier networks hosted within data centers. User apps and real-time data needs to be decentralized to ensure lower latency and bandwidth costs across Equinix's largest market footprint. The emerging internet of things will be a key catalyst adding interconnection complexity and wealth of data increasing data center demands. Internet of things hopes to equip every device with real-time analytics in the future. Cisco estimates 50 billion connected devices by 2020. Equinix is aggressively adding new capacity to meet such a large demand of interconnectivity and data server space.

Top Solution Provider

The company is growing a critical mass of partnerships in key strategic hubs and metropolitan areas for lower latency, resulting in reduced operating costs for its customers. Pairing strategic locations with superior quality develops Equinix's global footprint which allows customers to easily scale their business as needed. Their high-density colocation centers create a "network good", which becomes magnetic in attracting key customers within location and facilitates increased interconnections. The business is very hard to reproduce, requiring large amounts of capital and an established set of key partners.

High Barriers to Entry and Switching Costs

Customers face high switching costs of moving their servers because it could disrupt their business operations. To mitigate this risk, they lock-in one to three-year contracts, but typically maintain relationships with their colocation venue for multiple contract cycles resulting in Equinix's sub-3% churn rate. Equinix's premium quality and service, higher switching costs, and expansive interconnectivity allows them to continually charge a rising premium on their cabinet space.

Valuation

Blended Valuation

Combining the discounted cash flow and comparable companies analyses we arrived at the intrinsic value of \$518.25. This represented a margin of safety of 35.7% above the market price. We decided to weight the DCF at 75% and the comparable companies analysis at 25% when calculating the blended valuation because Equinix's global scale and operational diversity is unmatched. This



Figure 21: Recurring Revenue by Geography

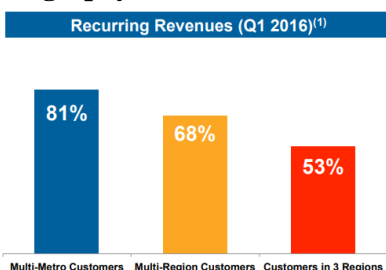


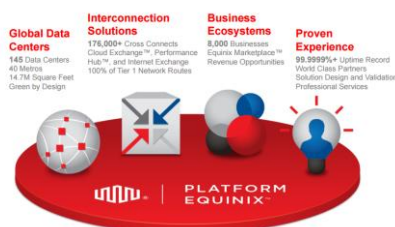
Figure 22: Customer Churn and Concentration

Customers and Churn

Top 10 Customers ⁽²⁾				
Rank	Type of Customer	%MRR	Region Count	IBX Count
1	Network	3.5%	3	125
2	Enterprise	2.6%	3	45
3	Cloud & IT Services	2.5%	3	51
4	Network	2.0%	3	118
5	Cloud & IT Services	1.9%	3	37
6	Cloud & IT Services	1.6%	3	51
7	Cloud & IT Services	1.5%	3	28
8	Enterprise ⁽³⁾	1.1%	1	7
9	Network	1.1%	3	91
10	Content & Digital Media	1.0%	3	60
Top 10 Customers		19%		
Top 50 Customers		38%		

Global New Customer Count & Churn %					
	Q4 16	Q1 17	Q2 17	Q3 17	Q4 17
Gross New Global Customers ⁽⁴⁾	160	170	170	180	150
MRR Churn ⁽⁵⁾	2.4%	2.8%	2.4%	2.3%	2.2%

Figure 23: EQIX Platform



creates a challenge when comparing it to companies with similar size and business models.

Discounted Cash Flow

The discounted cash flow model arrived at an intrinsic value of \$510.97. This value was arrived at using a weighted average cost of capital (WACC) of 5.7%. This value calculated the cost of equity using the capital asset pricing model (CAPM), which uses Beta as a key variable in the calculation. Due to Equinix's REIT structure and business model centered around hard assets, the company's Beta is 0.49. Additionally, 3.0% was used as the perpetuity growth assumption because it is roughly the growth rate of the United States' GDP. We feel this figure is conservative given Equinix's global exposure, especially to fast-growing markets like APAC.

Key Assumptions

Some key assumptions that factored into the discounted cash flow model were revenue growth and margin expansion. We expect revenue growth to remain robust due to industry trends and operating excellence, with waning reliance on inorganic growth supported by the tapering of capital expenditures. Additionally, we expect adjusted EBITDA margin expansion due to high scalability and increased utilization in the co-location business.

Comparable Companies Analysis

The comparable companies analysis arrived at a valuation of \$540.08. Using other comparable companies within the specialty REIT industry, we arrived at an industry enterprise value to EBITDA multiple of 23.1. When applying this multiple to Equinix's TTM EBITDA of \$1.887 billion, we arrived at our valuation.

Risks

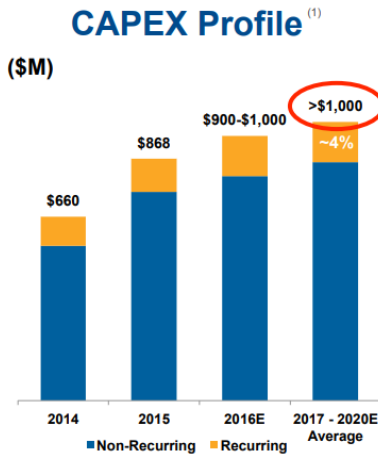
Customer Retention

A key risk to Equinix is losing customers, especially magnetic key customers which encourage other companies to house equipment within the same data centers. This risk is mitigated because of Equinix's low customer concentration and churn rate, and the considerable switching costs. Equinix is not dependent on key customers with their top customer comprising of only 3.5% of revenue, top 10 customers only 19%, and top 50 customers only 38%. Additionally, they have revenue spread evenly across five industry verticals. This diversity is paired with sub-3% churn rate of customers.

Considerable switching costs arise from the considerable operational planning and execution to switch colocation vendors. There is also the risk of disrupting daily business which is looked down upon by the risk adverse nature of Equinix's enterprise clients.



Figure 24: CapEx Profile



Loss of Premium Pricing

Equinix charges customers premium pricing for its services, if Equinix's pricing power were to diminish, it would negatively affect margins. However, Equinix should maintain premium pricing because clients may pay a premium on colocation services, but they could save on interconnection because of Equinix's vast connectivity and public cloud options. Even if the combination is a premium to competitors, customers justify Equinix's premium pricing by rich connections available onsite, low network latency, reliability (guaranteed uptime), flexibility in choosing network connections, and easy scalability with Equinix's global footprint.

Capital Intensive Industry

Data center operations is a very capital-intensive industry. If the economy has a downturn this could limit their capital expenditures, subsequently hindering growth. Despite Equinix currently spending over 31% of revenue in capital expenditures, only 4% of revenue is maintenance CapEx. This gives Equinix a considerable amount of flexibility if they were having difficulties generating cash flow. Additionally, the capital-intensive aspect of the industry serves as a barrier to entry. Real estate in major internet hubs like New York, Silicon Valley, and London is scarce so it commands premium pricing. If a data center is not willing to pay this premium they compromise quality of service in terms of latency. Not only is there a large direct cost of setting up a data center, but there are indirect costs when starting, like making price concessions to attract carriers and magnetic clients. These direct and indirect costs can be overwhelming to a business looking to enter the space.

Appendices:

Appendix A: Comparable Companies Analysis

Ticker	Name	Mkt Cap	EV	EV/TTM EBITDA	Dividend Yield	Px/AFFO	AFFO YoY	(Px/AFFO)/Growth
Average		22,760	30,414	23.1	3.4	22.0	3.5	(8.9)
Median		21,042	31,510	21.2	3.7	19.4	(0.5)	(3.1)
EQIX	EQUINIX INC	30,251	38,890.5	20.6	2.2	30.3	17.8	1.7
DLR	DIGITAL REALTY TRUST INC	21,042	31,509.8	29.2	3.8	16.0	(5.2)	(3.1)
EXR	EXTRA SPACE STORAGE INC	10,719	15,591.1	21.2	3.7	19.4	(0.5)	(40.0)
PSA	PUBLIC STORAGE	33,972	39,019.4	20.8	4.1	19.1	(3.2)	(6.1)
SBAC	SBA COMMUNICATIONS CORP	17,815	27,057.1	23.5	NA	24.9	8.5	2.9

Appendix B: Discounted Cash Flow

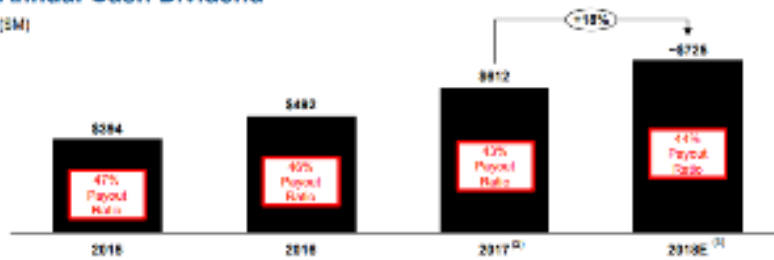
	Historicals		Projections							
			Fiscal Year Ending December 31							
	2016A	2017A	2018E	2019E	2020E	2021E	2022E	2023E	2024E	Terminal
Revenue	\$3,612	\$4,368	\$5,024	\$5,752	\$6,586	\$7,508	\$8,559	\$9,715	\$11,026	\$11,026
% Growth	32.5%	20.9%	15.0%	14.5%	14.5%	14.0%	14.0%	13.5%	13.5%	
Adj. EBITDA	\$1,380	\$1,887	\$2,150	\$2,490	\$2,901	\$3,345	\$3,856	\$4,449	\$5,105	\$5,105
% Margin	38.2%	43.2%	42.8%	43.3%	44.0%	44.5%	45.0%	45.8%	46.3%	46.3%
Less: Depreciation & Amortization	(837)	(1,042)	(1,182)	(1,353)	(1,549)	(1,766)	(2,013)	(2,285)	(2,594)	(3,122)
Adj. EBIT	\$543	\$844	\$968	\$1,137	\$1,352	\$1,579	\$1,842	\$2,164	\$2,511	\$1,983
% Margin	15.0%	19.3%	19.3%	19.8%	20.5%	21.0%	21.5%	22.3%	22.8%	18.0%
Less: Taxes	(154)	(159)	(145)	(171)	(203)	(237)	(276)	(325)	(377)	(297)
Memo: Effective Tax Rate	28.4%	18.8%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Tax-Effectuated EBIT	\$389	\$686	\$823	\$967	\$1,149	\$1,342	\$1,566	\$1,839	\$2,135	\$1,686
Plus: Depreciation & Amortization	837	1,042	1,182	1,353	1,549	1,766	2,013	2,285	2,594	3,122
Less: Change in NWC	(89)	72	(37)	(4)	4	(6)	4	(10)	3	3
Less: Capital Expenditures	(1,113)	(1,379)	(1,523)	(1,744)	(1,996)	(2,201)	(2,509)	(2,751)	(3,122)	(3,122)
Unlevered Free Cash Flows	\$23	\$421	\$445	\$573	\$706	\$901	\$1,074	\$1,364	\$1,609	\$1,688

Appendix C: Recent EQIX Acquisitions

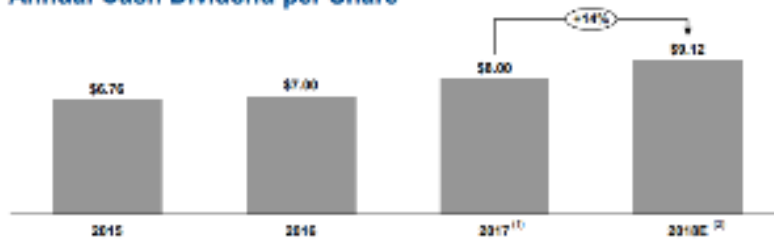
Itconic	On October 9, 2017, the Company completed the acquisition of Itconic, a data center business in Spain and Portugal
Zenium	On October 6, 2017, the Company completed the acquisition of Zenium's data center business in Istanbul
Verizon	On May 1, 2017, the Company completed the acquisition of certain colocation business from Verizon Communications Inc. consisting of 29 data center buildings located in the United States, Brazil and Colombia
IO	On February 3, 2017, the Company acquired IO UK's data center operating business in Slough, United Kingdom
TelecityGroup	On January 15, 2016, the Company completed the acquisition of TelecityGroup which operated data center facilities in cities across Europe
Bit-isle	On November 2, 2015, the Company acquired Bit-isle, Inc., a Tokyo-based company which primarily provided data center solutions in Japan

Appendix D: Dividends

Annual Cash Dividend ⁽¹⁾ (\$M)



Annual Cash Dividend per Share ⁽¹⁾

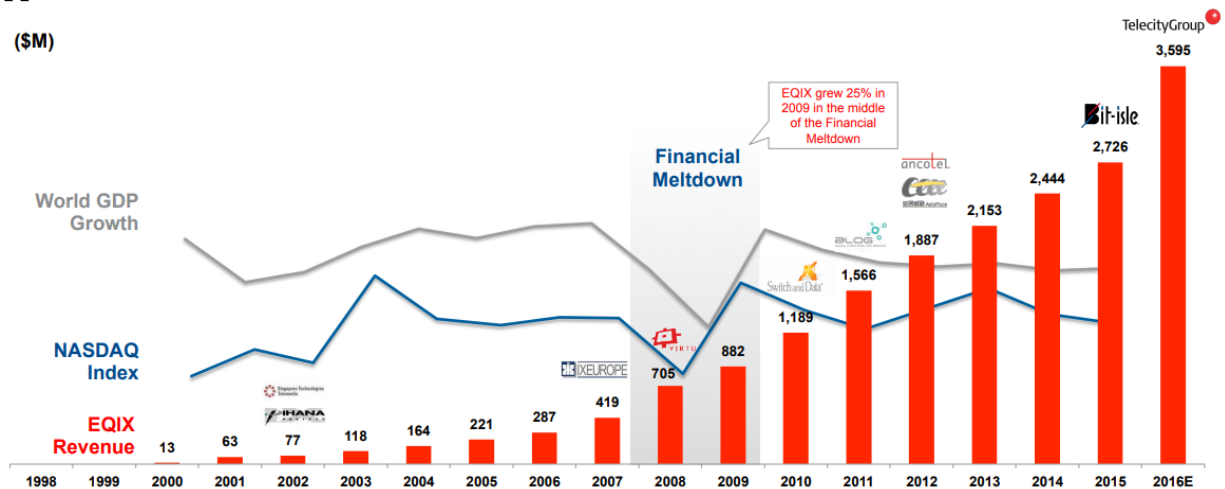


2018E Cash Dividend of ~\$725M

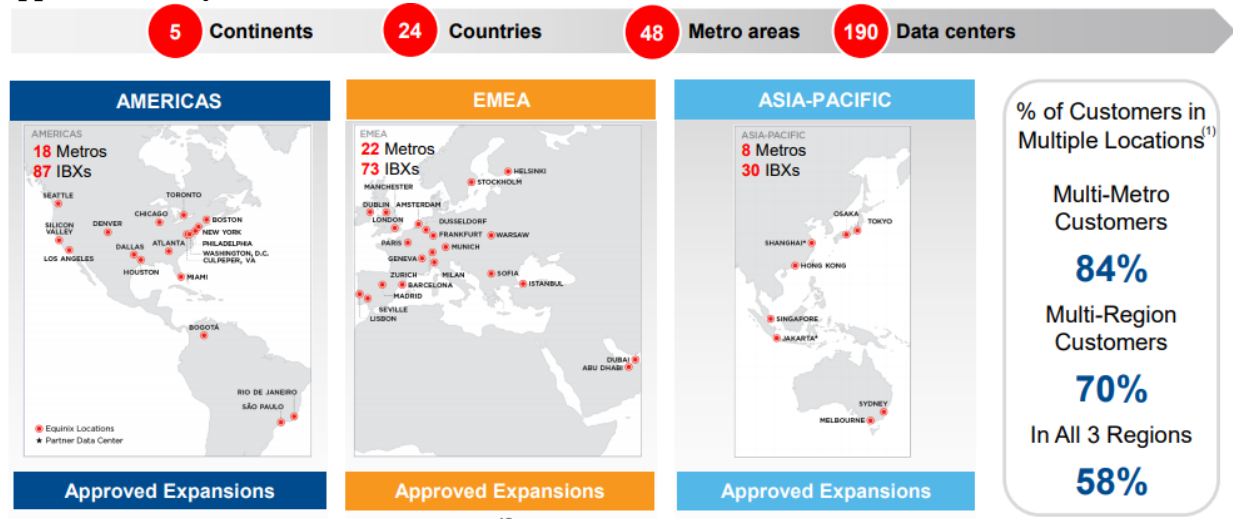
- Continued growth of both annual cash dividends and dividend per share
- First quarter dividend of \$2.28 to be paid March 21, 2018
- 2017 cash dividend payout of \$612M (▲ 24% YoY) and \$8.00 per share (▲ 14% YoY)
- 2018E cash dividend payout of ~\$725M (▲ 18% YoY) and \$9.12 per share (▲ 14% YoY)

Appendix E: Market Correlation

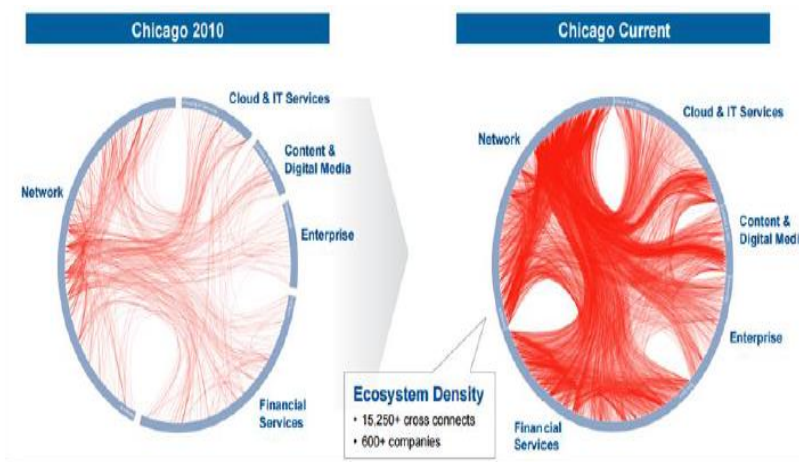
(\$M)



Appendix F: Key Facts

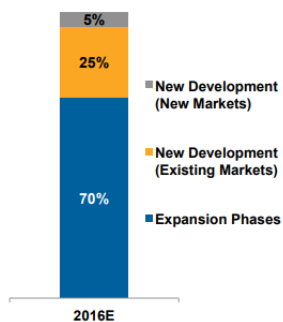


Appendix G: Ecosystem Density

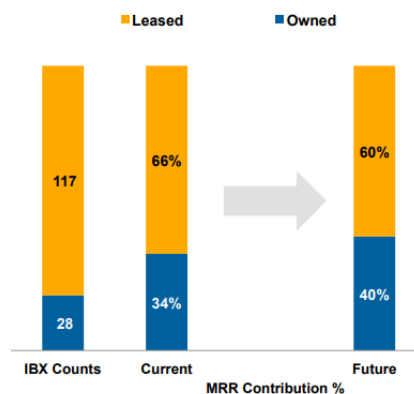


Appendix H: CapEx Profile

Expansion CAPEX Mix

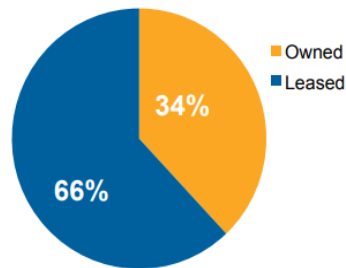


Owned vs. Leased⁽²⁾



Appendix I: Recurring Revenue and Ownership

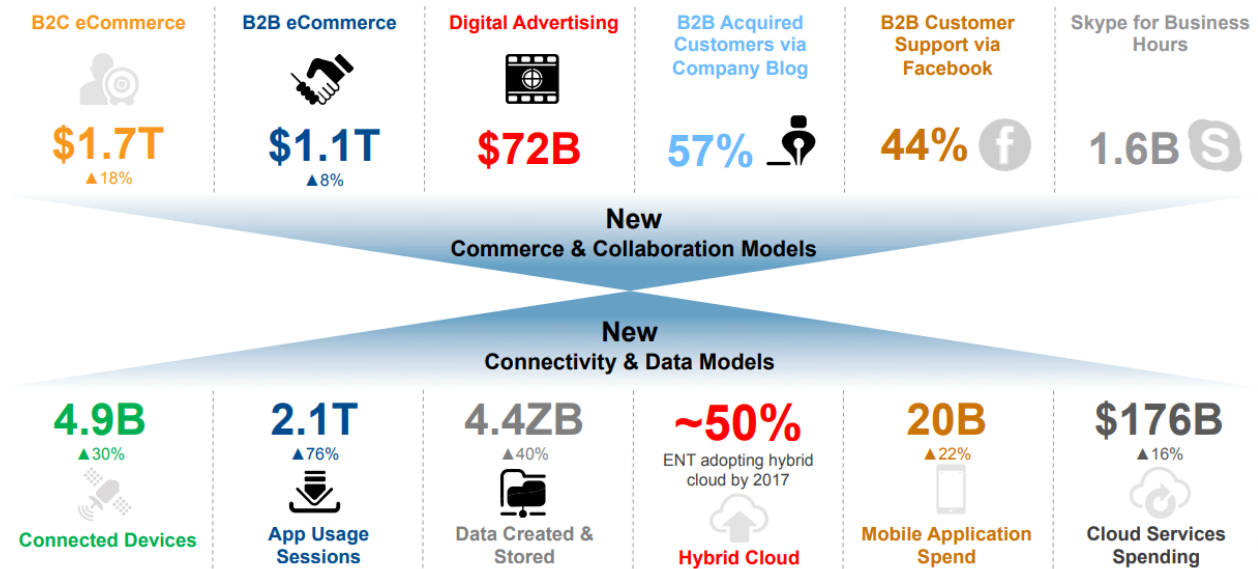
% of Recurring Revenue Owned/Leased
(Q1 16) Includes Acquisitions



Long-term control of our recurring revenues:

- Over 85% of our recurring revenues are generated by either owned properties or properties where our lease expirations extend to 2029 and beyond.⁽³⁾

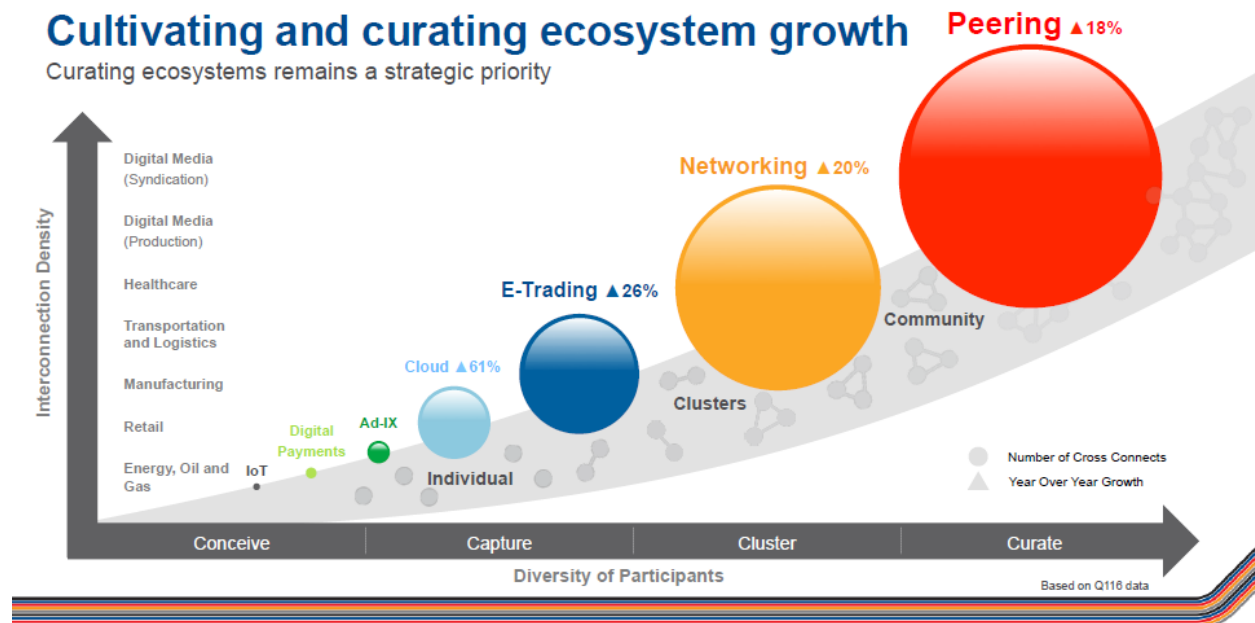
Appendix J: Total Addressable Markets



Appendix K: Ecosystem Growth

Cultivating and curating ecosystem growth

Curating ecosystems remains a strategic priority



Appendix L: Migration to a Digital Economy

The migration to a digital economy drives colocation and interconnection demand

Mega Trend	Industry Projections	Impact to Equinix
Digitization	\$90T economy in 2020 ⁽¹⁾ 98% of the economy is impacted ⁽¹⁾	Expands the core addressable market
Cloud	78% of workloads in the cloud by 2018 ⁽²⁾ 5TB of data per person by 2020 ⁽²⁾	Creates ecosystem dependence and stickiness
Internet of Things	50B connected devices by 2020 ⁽³⁾ 60-100ZB of daily traffic by 2025 ⁽³⁾ \$11T of economic value by 2025 ⁽⁴⁾	Leverages global footprint as compute migrates to the edge Drives demand for data center and interconnection globally

Appendix M: EQIX Management

