Key Market Players

CenturyLink manages two facilities in Mississauga (TR1) and Markham (TR3) in the greater Toronto area. TR1 features 86,800 sq. ft. and 6.6 MW, while TR3 has 101,000 sq. ft. with 5 MW of power.

Cogeco Peer 1 has its flagship data center in Barrie, Ontario, just north of Toronto. This 60,000 sq. ft. building is on a 4-acre lot. Three separate modules comprise 30,500 sq. ft.of raised floor area supported by 10 MW. Including the Barrie data center, CDS operates 8 data centers in Canada and 5 in the Toronto area including Toronto North (Barrie), Toronto West with 7,500 sq. ft. and 500kW, Toronto Downtown I with 25,000 sq. ft. and 4,000 kW, Toronto Downtown II with 13,404 sq. ft. and 2,000 kW, and Toronto East with 42,000 sq. ft. and 10,000 kW.

Cologix has eleven data centers in Canada, seven are located in Montreal, two are in Toronto, and two are in Vancouver. TOR1 in Toronto is composed of seven separate data centers in the 151 Front Street building totaling 25,000 sq. ft. TOR2 has 20,000 sq. ft. and the same connectivity as TOR1 to over 150 carriers.

Q9 Networks operates six data centers in Canada with two sites in Toronto, three sites in Calgary, and one in Kamloops. Q9 has been serving data center customers in Canada since 2002. Bell Canada holds a 35.4% stake in Q9 and is acquiring the remaining shares in a transaction expected to close before the end of 2016. Q9 Networks continues to design, build, and operate colocation data centers.

Rogers Communications is a major Canadian telecommunications company. Rogers Business Solutions provides internet, connectivity, data center and cloud services to a number of enterprises. The company has invested over $1 billion acquiring networks and infrastructure from companies such as Atria, Blink, Mountain Cable and BLACKIRON DATA.

Sungard Availability Service has multiple locations in Ontario along with a data center in Montreal. The five locations in Toronto total 234,700 sq. ft., with 81,600 sq. ft. of raised floor space.

TeraGo Networks offers interconnection and data center services across Canada. TeraGo owns and manages its own IP network to serve about 4,000 customers in 46 Canadian markets. The Mississauga facility has 9,500 sq. ft. of raised floor data center space and 4.8 MW.

Market Analytics

There are more than 6 million residents in the greater Toronto region, Canada's most populous metropolitan area. The city is also the economic center of Canada with a GDP of $157 Billion representing about 10% of the country's total GDP.

Toronto is Canada's financial hub, with headquarters for most domestic banks as well as regional headquarters for international banks. Financial services have been a key demand driver for data center space in Toronto. Technology is another key driver, as Toronto is the third-largest tech sector in North America behind only San Francisco and New York.

Over the past year the average price of homes in the Toronto market increased by 17.7%. Canada's other hot real estate market Vancouver has recently implemented a 15% tax on foreign buyers. This has the potential to send foreign investors to the Toronto market further increasing growth. The metropolitan population is projected to grow by over 2.6 million to 7.45 million by 2031.

Toronto is also Canada's largest data center market, representing about 50% of Canada's multi-tenant data center inventory. Despite Canada's recent economic woes from a slow in the energy sector, Toronto's economy has proven resilient. The city has experienced an increase of over 39,000 jobs since July of last year. Growth in this data center market is expected to grow with the city.

What's prompting this growth?
Data center growth is driven by primary industries including the financial sector, media and cloud services, government, gaming, e-commerce, and SaaS. Data sovereignty is compelling providers to provide a footprint within the country.

What's next?
Toronto's large population attracts demand from cloud, SaaS, and media services. As new providers continue to move into the market additional supply will be built to accommodate demand. A recent example of this is Microsoft operating an Azure cloud facility in Toronto and another in Quebec.

MARKET INDICATORS			
LOW ($US/kW/MO)	HIGH ($US/kW/MO)	QUARTER TREND	2016 FORECAST
$160	$250	→	→

SUPPLY & DEMAND				
SUPPLY ESTIMATE	BALANCE		TENANT DEMAND	SUPPLY PIPELINE
± 23 MW	OVER SUPPLY / EQUILIBRIUM / UNDER SUPPLY ✓		↗	↗

Carrier Hotels

Toronto Data Hub 151 Front Street
The unincorporated closed-end real estate investment trust, Allied Properties REIT, is a leading owner, manager, and developer of office space. Its subsidiary, Allied Data Centers operates Toronto Data Hub 151 Front Street, a restored 8-story building with 271,500 sq. ft. This facility is the most connected building in Canada with more than 150 carriers on-site including nine unique networks and 25 diverse fiber entry points. This site has direct connectivity to two other nearby properties operated by Allied – 35 John/250 Front West and 905 King Street West.

35 John/250 Front West Street
This data center is a 1.4 million square foot building with 110,000 sq. ft. of powered shell space. There is 20 MVA power provided by Ontario Hydro with two diverse feeds and an additional substation added in 2016. The 12 MW of critical power is engineered to N+1 redundancy, while cooling is 2N redundant. The space has 14' height clearances and there are suites as small as 2,000 sq. ft. In addition to direct connection to 151 Front Street, fiber carriers at this location include Bell, Beanfield, Coneco, Rogers and Telus.

905 King Street
905 King Street offers 60,000 sq. ft. of powered shell space. There is 7.7 MW of critical power fed by a substation, and sufficient cooling, both backed by N+1 redundancy. This location also has direct connection to 151 Front Street as well as fiber provided by Bell, Beanfield, Cogeco, MTS Allstream and Rogers.

DATA SOVEREIGNTY

Canadian data center users have increased concerns for information privacy and data sovereignty (also known as data residency) from US providers. The US Patriot Act and other breaches in privacy have increased demand for data centers within Canada's borders. Operators are recognizing these concerns and developing supply within the country. In September 2015, Oracle, DigitalOcean (TOR1), Skytap inc. (CAN-Toronto), and CentriLogic introduced data centers in Toronto. That same month, CetriLogic opened a data center in Mississauga, Ontario, just west of Toronto. In February 2016, BlackBerry Limited announced AtHoc networked crisis communication platform to address data residency concerns. In early 2016, Microsoft opened two data centers in Canada, one of which is in Toronto. In October 2016 DuPont Fabros acquired a former printing facility in Vaughan, Ontario, just north of Toronto, for $41.6 million. Phase I is planned to come online 3Q 2017 with 125,000 sq. ft. of data center space and 24 MW.

FIBRE

Recently, the Big Three Canadian Telecoms have pledged billions in infrastructure upgrades to serve Canada's largest markets.
Secondary Canadian markets have challenges in attracting larger providers to invest in fiber networks. This lack of connectivity makes it difficult to take advantage of inexpensive real estate for potential sites. To combat this issue, smaller markets have begun developing their own networks. Calgary and Kamloops have experienced increased investment for data center services.
Prefabricated 1,700 sq. ft. modules provided by Emerson Network Power were recently installed as landing stations in Canada and the UK for transatlantic submarine cable. The new cable, operated by Hibernia, is the first transatlantic route launched in the past 12 years.

POWER

Canada has relatively inexpensive power, most of which comes from clean/renewable resources (59.3% hydroelectric in 2014). The Canadian government is currently investing in the construction of 4 new hydroelectric power dams in Manitoba, Quebec, Newfoundland and British Columbia.

MARKET UPDATES

- **TorIX is the 17th largest IXP in the world with 213 peers (3rd-largest if multi-city IXP's are eliminated)**

- **IBM spent $1.2 billion to expand cloud computing services**

- **TeraGo Inc. acquired Rackforce Networks, the largest Canadian enterprise cloud services provider in the US and Europe, for $31 million in 2015**

- **Ormuco launched Connect Cloud, a hybrid cloud option based on HP Helion OpenStack infrastructure**

- **Shaw Communications announced partnership with Microsoft in early 2016 to offer Azure**

- **Amazon Web Services announced plans to build its first Canadian data center in Montreal**

- **I.C.E. DATACENTERS opened former HP site in September 2016 with 41,000 sq. ft. and 8 MW, expandable to 90,000 sq. ft. and 16 MW**

- **Bell Canada to acquire Manitoba Telecom Services for $3.9 billion, and remaining shares of Q9 Networks for $675 million**

- **Shared Services Canada to consolidate government data center footprint from 600,000 sq. ft. to 180,000 sq. ft. for cost savings**

Randy Borron: Thoughts On the Market
What are your thoughts on the Toronto market?

"In the 34 years I have been working in real estate I have never seen so much foreign investment coming into Canada, with so many being so optimistic about the city's future growth and development potential. A year of phenomenal change has many organizations adapting to cloud computing and virtualizing much of their IT loads. There has been tremendous change in the IT world in recent years, and as a result, facilities to support these changes are in high demand. There has been very active leasing in the colocation market, notably so in the first half of the year. There has been lots of new interest in additional wholesale developments in the Toronto market place, especially since the supply of wholesale space is so restricted at this time."

What would you say makes Toronto different from other Canadian markets?

"Toronto and Ontario are the economic engines of Canada and represents 60-70% of IT traffic in the country. It's the location of a vast number of financial services institutions and corporate head offices. It's the largest market and typically we see foreign investors come to Toronto and expand outward from there. Often these investors will have 2 data centers before expanding elsewhere"

What are some of the key trends you see affecting the Market?

"Many companies still have a large portion of servers in the office environment. There is no question this is not a good real estate decision or a good environment for servers and IT infrastructure. Very rapidly there is a migration to the proper environment of enterprise or third party data centers.

We are also continuing to see a trend towards business reliance on their IT infrastructure and demand for higher levels of resiliency as a result."

There has also been rapid growth and adoption of cloud and managed services that have been gobbling up data center space at a tremendous rate. While driving demand for new and higher quality facilities that can support their densities and demand.

Latency and customer experience is a big demand driver as well. we continue to see organizations moving services closer to the Canadian markets that they serve. With lower latency a better customer experience can be provided. Currently this is not the biggest driver, however low latency solutions with quick response times may become more relevant as demand for mobile technologies continue to grow."

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Randy Borron is a Vice Chairman with over 28 years of experience in data center and telecom switch site acquisition and lease negotiation, and with more than 34 years of experience with Cushman & Wakefield Ltd.

His data center expertise covers site selection, lease negotiation, portfolio strategy, real estate strategic planning, and account management, Randy is experienced in managing global accounts and transaction; and large teams in many regions, many disciplines, including client, team, and other expert service producers.

Randy is one of the founding members and leader of Cushman & Wakefield Data Center Advisory Group. The Data Center Advisory Group is made up of uniquely qualified specialists who understand the specialized requirements of the mission critical environments. Mr. Borron determines the value proposition within each transaction to ensure that his client's real estate decisions results in protection of their mission critical facilities, skills, tools, and knowledge.

Randy is a top producer in Cushman & Wakefield Ltd. Achieving Top 100 in the Americas in 2013, 2014, and 2015. Mr. Borron graduated from the University of Western Ontario with an Honors Degree in Urban Development and Economics. He is a member od SIOR, CoreNet Global, and NAIOP.

About Cushman & Wakefield
Cushman & Wakefield is a leading global real estate services firm that helps clients transform the way people work, shop, and live. The firm's 43,000 employees in more than 60 countries provide deep local and global insights that create significant value for occupiers and investors around the world. Cushman & Wakefield is among the largest commercial real estate services firms with revenue of $5 billion across core services of agency leasing, asset services, capital markets, facility services (C&W Services), global occupier services, investment & asset management (DTZ Investors), project & development services, tenant representation, and valuation & advisory. To learn more, visit www.cushmanwakefield.com or follow @CushWake on Twitter.