<u>CANADIAN</u>

<u>DATA CENTRE HOSTING &</u>

INFRASTRUCTURE CLOUD SERVICES

MARKET REPORT



2020 EDITION

NBI / MICHAEL SONE ASSOCIATES INC.

www.nbicanada.com

TABLE OF CONTENTS

Section	on	Page
ABO	UT THIS REPORT	viii
SECT	TION 1 — INTRODUCTION & INDUSTRY BACKGROUND	1
1.1	Introduction	
1.2	Industry Background	
1.3	Types of Hosting Services	
1.4	Drivers of Outsourced Hosting Services	
	1.4.1 Cost Reduction	10
	1.4.2 Improved Company Focus	10
	1.4.3 Access to External Technology & Resources	11
	1.4.4 Access to Temporary Resources	
	1.4.5 Security and Reliability	
	1.4.6 Proximity Communities	
1.5	Data Centre Features	
SECT	ΓΙΟΝ 2 — MARKET OVERVIEW	
2.1	Market Highlights 2019-2020	19
2.2	2021-2022 Forecast	
2.3	Raised Floor Area	

UNAUTHORIZED REPRODUCTION PROHIBITED

TABLE OF CONTENTS (cont'd.)

Section

2.4	Major T	23 rends
	2.4.1 H	Hyperscale and Other Cloud providers
	2.4.2	Communities of Interest & Growing Importance of Provider Exchanges 26
	2.4.3 H	Hybrid Solutions – the Foundation of the Cloud
	2.4.4 F	Responding to Changing Needs and Diverse Circumstances
	2.4.5 E	Effect of COVID-19 on the Market
SECTI	ION 3 —	MARKET AT A GLANCE
SECTI	ION 4 —	DATA CENTRE HOSTING SERVICE PROVIDER PROFILES 35
4.0	Introduc	tion
4.1	Aptum ((formerly Cogeco Peer 1)
4.2	Bell .	
4.3	CGI	
4.4	Cologix	
4.5	Cyxtera	
4.6	DXC Te	echnology
4.7	Equinix	
4.8	OVHclo	oud111
4.9	Rogers.	
4.10	SaskTel	
4.11	TELUS	

TABLE OF CONTENTS (cont'd.)

5.0	Introduction	146
5.1	Compass Datacenters	146
5.2	Digital Realty	.148
5.3	eStruxture	150

LIST OF EXHIBITS

Exhibit

Section

Hosting Industry Revenues & Market Shares

Exhibit 3.1	Industry	Revenue	by	Hosting	Service	Provider	&	Market	Shares,
	2018-202	20							
Exhibit 3.2	Industry 1	Revenue b	y Ho	osting Seg	ment, 201	8-2020			

Hosting Industry Revenues by Segment by Hosting Service Provider

Exhibit 3.3	Revenue by Segment by Service Provider, 2018	
-------------	--	--

UNAUTHORIZED REPRODUCTION PROHIBITED

Page

LIST OF EXHIBITS (cont'd)

Exhibit

Page

Exhibit 3.4	Revenue by Segment by Service Provider, 2019	33
Exhibit 3.5	Revenue by Segment by Service Provider, 2020	33
Exhibit 3.6	Industry Revenues by Vertical Market, 2019	34
Exhibit 3.7	Data Centre Area (Total, Raised Floor, In Service & Spare) by I	Hosting
	Service Provider & Shares as of early-2020	34

Hosting Service Provider Exhibits

Note: All data centre square footage area numbers in the Exhibits below are shown for each of Total, Administrative, Net Usable, Raised Floor, In-Service and Spare Capacity

Exhibit 4.1	Aptum (formerly Cogeco Peer 1)		
	4.1.1	Revenue by Hosting Type, 2018-2020	
	4.1.2	Revenue by Industry, 2019	
	4.1.3	Data Centre Area by Province, as of early-2020	
Exhibit 4.2	Bell		
	4.2.1	Revenue by Hosting Type, 2018-2020	
	4.2.2	Revenue by Industry, 2019	
	4.2.3	Data Centre Area by Province, as of early-2020	
Exhibit 4.3	CGI		
	4.3.1	Revenue by Hosting Type, 2018-2020	
	4.3.2	Revenue by Industry, 2019	
	4.3.3	Data Centre Area by Province, as of early-2020	

LIST OF EXHIBITS (cont'd)

Exhibit

Exhibit 4.4	Colog	88	
	4.4.1	Revenue by Hosting Type, 2018-2020	
	4.4.2	Revenue by Industry, 2019	
	4.4.3	Data Centre Area by Province, as of early-2020	
Exhibit 4.5	Cyxter	ra	
	4.5.1	Revenue by Hosting Type, 2018-2020	
	4.5.2	Revenue by Industry, 2019	
	4.5.2	Data Centre Area by Province, as of early-2020	
Exhibit 4.6	DXC		103
	4.6.1	Revenue by Hosting Type, 2018-2020	
	4.6.2	Revenue by Industry, 2019	
	4.6.3	Data Centre Area by Province, as of early-2020	
Exhibit 4.7	Equini	x	110
	4.7.1	Revenue by Hosting Type, 2018-2020	
	4.7.2	Revenue by Industry, 2019	
	4.7.3	Data Centre Area by Province, as of early-2020	
Exhibit 4.8	OVHc	loud	116
	4.8.1	Revenue by Hosting Type, 2018-2020	
	4.8.2	Revenue by Industry, 2019	
	4.8.3	Data Centre Area by Province, as of early-2020	

LIST OF EXHIBITS (cont'd)

<u>Exhibit</u>

Exhibit 4.9	Rogers 127				
	4.9.1 Revenue by Hosting Type, 2018-2020				
	4.9.2 Revenue by Industry, 2019				
	4.9.3 Data Centre Area by Province, as of early-2020				
Exhibit 4.10	SaskTel 135				
	4.10.1 Revenue by Hosting Type, 2018-2020				
	4.10.2 Revenue by Industry, 2019				
	4.0.3 Data Centre Area by Province, as of early-2020				
Exhibit 4.11	TELUS				
	4.11.1 Revenue by Hosting Type, 2018-2020				
	4.11.2 Revenue by Industry, 2019				
	4.11.3 Data Centre Area by Province, as of early-2020				

ABOUT THIS REPORT

The *Canadian Data Centre Hosting & Infrastructure Cloud Services Market Report,* 2020 Edition is NBI/Michael Sone Associates' most recent examination of the competitive landscape of the Hosted Data Centre Services market in Canada. Containing over 40 exhibits, this report provides a detailed analysis of the development of and trends driving the Canadian Data Centre Hosting and Cloud market. Market size and vendor market shares are presented in terms of revenues and size of data centre (overall, raised floor and capacity) for the period 2018 to 2022.

We define the hosting market as out-sourced infrastructure operated in a data centre, segmenting this market into three areas – colocation, shared hosting and managed hosting. This segmentation is used in the exhibits throughout the report.

A sub-category of managed hosting is called Infrastructure as a Service (IaaS), one form of cloud computing. This is an arrangement whereby a client outsources the IT equipment required to support its operations, including servers, storage and networking, to a service provider. Much like dedicated managed hosting, the IaaS service provider owns the equipment and is responsible for housing, operating and maintaining it. However, most IaaS services usually permit the dynamic scaling of resources according to the customer's needs, and the customer is typically charged on a per-use basis that is metered by one or more parameters reflecting the consumed computing resources. We include coverage of IaaS services offered by major Canadian telecommunications companies in this report.

In-depth profiles of 11 leading retail service providers active in Canada are provided, examining the company's services, facilities and Canadian hosting revenues. Each profile includes exhibits detailing the company's total and market segment revenues (colocation, shared and managed), segmentation of revenues by vertical market, and quantifies in terms of square footage the data centre operations by raised floor space, in-service floor space and spare capacity in each province where the company operates as of early-2020.

NBI/Michael Sone Assoc., 2020 Cdn Data Centre Hosting & Infrastructure Cloud Services Report

Additionally, and new for this edition, are profiles of three major data centre wholesalers with facilities in Canada. These companies build and operate hosting services for carriers and cloud providers, especially the latter as they race to accommodate the rapidly burgeoning volume of data. Wholesalers' customers also include governments and large enterprises that need remote extensions to their own in-house facilities to maintain maximum control of their data, while avoiding any direct relationship with a third-party provider.

Exhibits for the overall market include industry revenues & market shares, revenue by service provider by market segment, data centre floor area by hosting service provider, overall data centre area by province and total industry revenue by vertical.

As with all NBI/Michael Sone Associates reports, information has been gathered from primary sources. The information contained in this report is the result of numerous interviews, primarily with the hosting service providers themselves.

Please note that reported revenues represent proceeds from the operation of outsourced infrastructure operated in data centre services by vendors active in the Canadian market. These figures exclude revenues garnered by the profiled providers from services offered outside of Canada as well as consulting and professional services fees (other than what is required to provide service), such as business process outsourcing. Figures are in Canadian dollars unless otherwise noted.

Please also note that in accordance with industry practice, we use the Imperial unit of measure, the square foot, to quantify data centre area. One thousand square feet equals about 93 square meters; a 10,000 square foot data centre is thus about 930 square meters. We also use the units of Watt and VA (Volt-Ampere) interchangeably when discussing data centre power capacities. This implicitly assumes that electrical loads are purely resistive, which may or may not be the case for any specific piece of equipment, system or data centre.