

**North America
Carrier and Cable
WiFi Forecast, 2013 –
2018: *Meeting
Mobile Demand with
WiFi***

Market Study
Fourth Quarter, 2014





North America Carrier and Cable WiFi Forecast, 2013 – 2018: *Meeting Mobile Demand with WiFi*

A Market Study

Published Fourth Quarter, 2014

Version 1.0

Report Number: 4Q2014-02

iGR
12400 W. Hwy 71
Suite 350 PMB 341
Austin TX 78738

Table of Contents

Abstract.....	1
Executive Summary	3
Figure A: Simple View of WiFi in the Mobile Network.....	3
Carrier and Cable MSO WiFi Business Models	4
Carrier WiFi.....	4
Cable MSO WiFi	4
Third Party WiFi	5
Municipal WiFi	5
Enabling Carrier and Cable WiFi.....	5
Carrier and Cable WiFi SWOT Analysis	6
Figure B: Carrier and Cable WiFi SWOT Analysis	6
Carrier and Cable WiFi Access Point Market Forecast.....	6
Figure C: North American Carrier and Cable WiFi AP Forecast, 2013-2018 (installed).....	7
Figure D: North American Carrier and Cable WiFi AP Forecast, 2013-2018 (installed; no dual-SSID).....	8
Figure E: North American Carrier and Cable WiFi AP Installation Cost Forecast, 2013-2018 (\$M; cumulative)	9
Methodology.....	10
WiFi Business Models	11
Types of WiFi Networks.....	11
WiFi Business Models	12
WiFi Networks	14
Carrier WiFi	14
AT&T	15
GCI	15
Nex-Tech	16
Cable MSO WiFi.....	16
Bright House Networks	16
Cablevision.....	16
Comcast	17
Cox Communications	17
Shaw Communications	17
Time Warner Cable	17
Third Party WiFi.....	18
Boingo	18
CCI Capaciti Networks.....	18
Gogo	18
Google WiFi.....	19
Municipal WiFi.....	19
Table 1: Canadian Municipalities with WiFi networks	20

Quoting information from an *iGillottResearch* publication: external — any *iGillottResearch* information that is to be used in press releases, sales presentations, marketing materials, advertising, or promotional materials requires prior written approval from *iGillottResearch*. *iGillottResearch* reserves the right to deny approval of external usage for any reason. Internal quoting individual sentences and paragraphs for use in your company's internal communications activities does not require permission from *iGillottResearch*. The use of large portions or the reproduction of any *iGillottResearch* document in its entirety does require prior written approval and may have some financial implications.

Copyright © 2014 *iGillottResearch*, Inc. Reproduction is forbidden unless authorized.

FOR INFORMATION PLEASE CONTACT IAIN GILLOTT (512) 263-5682.

Table 2: U.S. Municipalities with WiFi networks	21
Carrier and Cable WiFi Network Architectures	25
Carrier WiFi	25
Figure 1: Simple View of WiFi in the Mobile Network	26
Figure 2: Simple View of WiFi in the Mobile Packet Core Architecture.....	26
Cable WiFi	27
Figure 3: Simple View of WiFi in the Cable MSO Network.....	27
Partnerships	28
Roaming on WiFi Networks.....	29
Carrier and Cable WiFi Standards.....	30
Passpoint / Hotspot 2.0	30
Wireless Broadband Alliance (WBA) NGH and ICP Programs	31
ANDSF	32
VoWiFi.....	33
WiFi Offload	35
Types of WiFi Offload	35
Why offload?.....	36
Adoption of Carrier WiFi Usage.....	38
SWOT Analysis of Carrier WiFi	39
Table 3: Carrier and Cable WiFi SWOT Analysis.....	39
Strengths	40
Weaknesses.....	41
Opportunities	42
Threats	43
Consumers' WiFi Usage.....	44
Mobile Device Use	44
Table 4: Locations of Mobile Device Use	44
Figure 4: Locations of Mobile Device Use	45
WiFi Use in the Home	46
Table 5: Home WiFi Network.....	46
Figure 5: Home WiFi Network.....	47
Table 6: Devices Connected to WiFi	47
Figure 6: Devices Connected to WiFi	48
Table 7: Access to Video Content from Streaming Services	49
Figure 7: Access to Video Content from Streaming Services	49
WiFi Use at School and Work	50
Table 8: Frequency of School WiFi Use.....	50
Figure 8: Frequency of School WiFi Use.....	51
Table 9: Frequency of WiFi Use at Work	52
Figure 9: Frequency of WiFi Use at Work	52
WiFi Use On the Go.....	53
Table 10: Hours Spent On the Go	53
Figure 10: Hours Spent On the Go	54

Quoting information from an *iGillottResearch* publication: external — any *iGillottResearch* information that is to be used in press releases, sales presentations, marketing materials, advertising, or promotional materials requires prior written approval from *iGillottResearch*. *iGillottResearch* reserves the right to deny approval of external usage for any reason. Internal-quoting individual sentences and paragraphs for use in your company's internal communications activities does not require permission from *iGillottResearch*. The use of large portions or the reproduction of any *iGillottResearch* document in its entirety does require prior written approval and may have some financial implications.

Copyright © 2014 *iGillottResearch*, Inc. Reproduction is forbidden unless authorized.

FOR INFORMATION PLEASE CONTACT IAIN GILLOTT (512) 263-5682.

Table 11: General On the Go Activities.....	55
Figure 11: General On the Go Activities.....	56
Table 12: Typical Data Network while On the Go	57
Figure 12: Typical Data Network while On the Go.....	58
Table 13: Mobile Device Activities while On the Go	59
Figure 13: Mobile Device Activities while On the Go.....	60
Table 14: On the Go Activities - WiFi or Mobile Data	62
Figure 14: On the Go Activities - WiFi or Mobile Data	63
Carrier and Cable WiFi Network Forecast.....	65
Forecast Assumptions.....	65
North American Carrier and Cable WiFi Forecast.....	67
Installed Access Points.....	67
Table 15: North American Carrier and Cable WiFi AP Forecast, 2013-2018 (installed).....	67
Figure 15: North American Carrier and Cable WiFi AP Forecast, 2013-2018 (installed).....	68
Figure 16: North American Carrier and Cable WiFi AP Forecast, 2013-2018 (installed; no dual-SSID).....	68
AP Installation Cost.....	69
Table 16: North American Carrier and Cable WiFi AP Installation Cost Forecast, 2013-2018 (\$M)	69
Figure 17: North American Carrier and Cable WiFi AP Installation Cost Forecast, 2013-2018 (\$M)	69
Figure 18: North American Carrier and Cable WiFi AP Installation Cost Forecast, 2013-2018 (\$M; cumulative)	70
Survey Demographics	71
Demographic Profile of U.S. Consumer Respondents	71
Table 17: Age	71
Figure 19: Age	72
Table 18: Gender	72
Figure 20: Gender	73
Table 19: Ethnic Background	73
Figure 21: Ethnic Background	74
Table 20: Annual Household Income	74
Figure 22: Annual Household Income.....	75
Table 21: Level of Education.....	75
Figure 23: Level of Education.....	76
Table 22: Age of Children in Household.....	77
Figure 24: Age of Children in Household	77
Table 23: Marital Status.....	78
Figure 25: Marital Status.....	78
Vendor Profiles.....	79
Accuris Networks.....	79
Alcadis ISP Solutions	81
Anyfi Networks.....	82
Aptilo Networks	85

Quoting information from an *iGillottResearch* publication: external — any *iGillottResearch* information that is to be used in press releases, sales presentations, marketing materials, advertising, or promotional materials requires prior written approval from *iGillottResearch*. *iGillottResearch* reserves the right to deny approval of external usage for any reason. Internal quoting individual sentences and paragraphs for use in your company's internal communications activities does not require permission from *iGillottResearch*. The use of large portions or the reproduction of any *iGillottResearch* document in its entirety does require prior written approval and may have some financial implications.

Copyright © 2014 *iGillottResearch*, Inc. Reproduction is forbidden unless authorized.

FOR INFORMATION PLEASE CONTACT IAIN GILLOTT (512) 263-5682.

Aruba Networks	86
AT&T	88
Boingo	91
Bright House Networks, LLC.....	93
Cablevision Systems Corporation	95
Cisco	97
Comcast Corporation	99
Cox Communications	101
Devicescape.....	103
Ericsson	105
GCI	108
Gogo.....	109
Green Packet	111
iPass	113
Motorola Solutions.....	115
NetScout Systems.....	118
Ruckus Wireless.....	119
Time Warner Cable	123
Way4orth	125
wefi	125
Xirrus.....	127
Definitions	130
General.....	130
Device Types.....	130
Services	131
Network Technology.....	132
About iGR	137
Disclaimer.....	137

Quoting information from an *iGillottResearch* publication: external — any *iGillottResearch* information that is to be used in press releases, sales presentations, marketing materials, advertising, or promotional materials requires prior written approval from *iGillottResearch*. *iGillottResearch* reserves the right to deny approval of external usage for any reason. Internal-quoting individual sentences and paragraphs for use in your company's internal communications activities does not require permission from *iGillottResearch*. The use of large portions or the reproduction of any *iGillottResearch* document in its entirety does require prior written approval and may have some financial implications.

Copyright © 2014 *iGillottResearch*, Inc. Reproduction is forbidden unless authorized.

FOR INFORMATION PLEASE CONTACT IAIN GILLOTT (512) 263-5682.

Abstract

In public places throughout North America, it is not at all uncommon to see consumers on their mobile devices, and often these consumers are using WiFi instead of mobile cellular data. An ever-increasing number of WiFi hotspots operated by the mobile operators, cable MSOs and other service providers are becoming available to subscribers.

As the amount of traffic on the mobile data network continues to grow, North American mobile operators are increasingly looking to WiFi as an alternative to cellular data. In addition, cable MSOs have built a large WiFi network in major North American cities and they offer it as a value-add to their subscribers. Although motivated by different factors, both mobile operators and cable MSOs have built a significant number of WiFi hotspots in North America over the last two years, and consumers are benefitting.

This report provides an overview of the carrier and cable MSO WiFi market in the U.S. and Canada, the standards that are enabling the growth of WiFi, and data regarding U.S. Consumers' use of WiFi. Additionally, the market study provides a five-year forecast on the build-out of carrier and cable MSO WiFi.

Key questions addressed:

- What is Carrier WiFi? Which cellular operators are offering WiFi services?
- Which cable MSOs are offering WiFi services? How are they marketed?
- Which other service providers offer WiFi services?
- What are the relationships between the cellular operators, cable MSOs and independent service providers?
- What types of WiFi networks and business models exist?
- Which standards are guiding the evolution of WiFi?
- What are the opportunities for VoWiFi?
- How can users roam on WiFi? How is this ability changing?
- What are the strengths, weaknesses, opportunities and threats of carrier and cable WiFi?
- How do consumers in the U.S. use WiFi while they are at home, school or on the go?

Quoting information from an *iGillottResearch* publication: external — any *iGillottResearch* information that is to be used in press releases, sales presentations, marketing materials, advertising, or promotional materials requires prior written approval from *iGillottResearch*. *iGillottResearch* reserves the right to deny approval of external usage for any reason. Internal quoting individual sentences and paragraphs for use in your company's internal communications activities does not require permission from *iGillottResearch*. The use of large portions or the reproduction of any *iGillottResearch* document in its entirety does require prior written approval and may have some financial implications.

Copyright © 2014 *iGillottResearch*, Inc. Reproduction is forbidden unless authorized.

FOR INFORMATION PLEASE CONTACT IAIN GILLOTT (512) 263-5682.

- What is the five-year forecast for the build-out of WiFi hotspots in North America? How does this differ between cellular operators and cable MSOs?
- What is the impact of dual-SSID WiFi in the cable MSO networks?
- Which vendors are providing products and services to the WiFi market?
- How big is the carrier and cable MSO WiFi opportunity in North America?

Who should read this report?

- Mobile operators, including those with WiFi networks
- Cable MSOs and those offering WiFi services
- Other independent WiFi service providers
- Device OEMs
- Content providers and distributors
- Financial analysts and investors.

Quoting information from an *iGillottResearch* publication: external — any *iGillottResearch* information that is to be used in press releases, sales presentations, marketing materials, advertising, or promotional materials requires prior written approval from *iGillottResearch*. *iGillottResearch* reserves the right to deny approval of external usage for any reason. Internal-quoting individual sentences and paragraphs for use in your company's internal communications activities does not require permission from *iGillottResearch*. The use of large portions or the reproduction of any *iGillottResearch* document in its entirety does require prior written approval and may have some financial implications.

Copyright © 2014 *iGillottResearch*, Inc. Reproduction is forbidden unless authorized.

FOR INFORMATION PLEASE CONTACT IAIN GILLOTT (512) 263-5682.