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Consumer Cloud Demand

A Connected Life Market Watch Perspective

Cisco Internet Business Solutions Group

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Connected Life Market Watch Program Service Delivery & Cloud Experiences

Scope

- United States
- Canada
- France
- Italy

Approach

Market Watch Program

- Cisco IBSG's recurring primary research program
- Monitors changing consumer behavior to identify key market transitions

Methodology

- Broadband consumers
- 20-minute online survey
- 1,000 total respondents
- April 2011

Segmentation

 Used proprietary scoring methodologies to identify consumer "technology" segments

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Source: Cisco IBSG Connected Life Market Watch, 2011

Key Findings

Positive Impact	Better Together	Certain Features	Certain Customers
Cloud enhancements positively impact consumers' reaction to Connected Life services, and cloud demand is expected to increase	Cloud is more powerful as a suite of enhancements vs. a single enhancement	Different cloud- based enhancements have stronger consumer interest and impact than others	The level of consumer cloud interest (overall and types) differs by customer segments

- To increase adoption potential for Connected Life services, service providers should strategically include cloud enhancements with their offerings
- Prioritize the enhancements to balance between coverage / impact and cost (optimization) by aligning the enhancements to company strategy

Source: Cisco IBSG Connected Life Market Watch, 2011

Agenda

- Connected Life and cloud services
- Assessing impact of cloud services on buyer behavior
- Developing a service provider strategy for consumer cloud services



Connected Life Experiences

An expanding collection of services that enables consumers to connect from anywhere in order to work, live, play, and learn

> Family communication Television programming

Gaming Social networking

Collaboration

Communication

Entertainment

Work applications Healthcare Automotive maintenance Roadside assistance Education Childcare Travel

Monitor & Control

Home appliances Energy management Connected Life services can give consumers easier control and better quality in their service experience



Source: Cisco IBSG, 2012

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Consumers Regularly Engage in Connected Life Activities



Source: Cisco IBSG Connected Life Market Watch, 2011

Consumers' Hierarchy of Needs Leads to Connected Life Activities

One-to-Many Sharing of Personal Content: Photos, personal updates, social communities, etc. Facebook has more than 840 million active monthly users (2012), and over half log in daily.

Content Digitization: From kilobytes of digital text to terabytes of digital media. On average, 133 GB of storage is needed for each U.S. household, expected to grow at 54% CAGR.

Online Service Adoption: Hulu Plus has more than 1.5 million paying subscribers (Jan. 2012). Netflix.com has attracted 26.6 million unique visitors (Nov. 2011).

Increased Connectivity: 240 million U.S. Internet users in 2011. Average broadband speed will grow by 3.7 times from 2010 to 2015, from 7.5 Mbps to 27 Mbps.

Device Proliferation: From one PC to many personal devices. Over 60 million units of connected personal devices were sold in U.S. in 2010—tablets, netbooks, notebooks, and e-books.

Sources: Yankee Group, 2011; Cisco VNI; Cisco IBSG Connected Life Market Watch, 2011

Value to end users increases .

Social

Web

Content

Tools and Services

Connectivity and

Communications

Devices

Adoption of Connected Life Activities Has Created New Challenges



Sources: Yankee Group, 2011; Cisco IBSG, 2012

Cloud-Based Features Enhance the Consumer Experience

Before: Without Cloud

Manual and disjointed experiences

Source: Cisco IBSG, 2012

After: With Cloud



Automated and unified experiences

Key Cloud Enhancements

Cloud Enhancements*



Sources: Yankee Group, 2011; Cisco IBSG, 2011 *Select enhancements and may not cover complete cloud capability.

Key Cloud Enhancements: How They Work

	Before: Without Cloud		After: With Cloud		
Social	Manually, directly, and individually send files and information	Advanced Sharing	Automatically share certain online files and information only with friends and contacts		
		Recommendation	you specify		
	Contents are stored and managed by	Unified Data Mgmt	All contents are stored / backed up in cloud. View, access, and manage data from any		
Content	individual devices. Backup and sync require manual connection and	Automatic Backup	Internet-enabled device. Backup and sync		
	operation.	Automatic Data Sync	happen automatically.		
Services	Multiple interfaces and payments for content based on device and source	One-Time Payment	Single interface from multiple sources; pay once regardless of devices used		
	(VoD on TV, iTunes, Hulu,	Single-Menu Access			
	Amazon.com)	Immediate Access			
Connectivity	Files can be accessed only on the device where they reside, and a	Any Device / Location	Access files from any Internet-enabled device, and from any location. Switch		
	session cannot be continued on another device	Seamless Switching	services seamlessly from one device to another.		
Devices	Device-driven experience. Troubleshooting and addition of new	Automatic Add	Call or click to enable new capability immediately. Problems are monitored and		
	capabilities happen physically at the device level.	Remote Monitor & Auto Fix	fixed remotely and automatically.		
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Source: Cisco IBSG, 2012

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Social and Content-Based Cloud Enhancements: A More Detailed Look

	Before: Without Cloud		After: With Cloud				
	Manually send files to friends individually via email or post files online for wide audience	Advanced Sharing	Automatically share certain online files only with friends and contacts you specify				
Social	Ask friends directly and individually for their recommendations (e.g., calling, texting, email)	Recommendation	View friends' highest-rated shows and comments stored and posted from cloud (e.g., Facebook)				
	Separate data management by device (e.g., separate photo album on PC, phone, tablet, etc.)	Unified Data Management	View, access, and manage your data from any Internet-enabled device, regardless of where files are stored				
Content	Connect storage device and save data manually for backup (e.g., PC data saved on external hard drive)	Automatic Backup	Data on any Internet-enabled device is stored in cloud automatically (e.g., music files on phone kept in cloud)				
	Connect and manually sync across two devices (e.g., connect MP3 to PC and run music application to sync)	Automatic Data Sync	Sync automatically happens from cloud (e.g., photos taken on phone can be saved on PC automatically)				

Source: Cisco IBSG, 2012

Cloud Enhancements for Services: A More Detailed Look

	Before: Without Cloud		After: With Cloud
	Pay multiple times for content based on device used (for example, cable TV show purchased to download on PC)	One-Time Payment	Pay once for content regardless of how many devices you use to access that content (e.g., a song purchased online can be transferred to multiple devices)
Services	Each source requires separate individual interaction with own interface (VoD menu on TV, iTunes store for purchase, Hulu site for TV show)	Single-Menu Access	Access movies, TV shows, and music from multiple sources through a single portal or user interface (e.g., use TV remote control to browse VoD list, movies saved on PC, and Hulu list on TV screen)
	Content in physical form (e.g., Netflix DVD mail delivery, books shipped from Amazon.com)	Immediate Access	Immediate access to movies, TV shows, songs, or electronic books you purchase or rent

Source: Cisco IBSG, 2012

Cloud Enhancements for Connectivity and Devices: A More Detailed Look

Before: Without Cloud

Files can be accessed only on the device where they are stored (movie on DVR can be viewed only on TV directly connected to DVR)

Connectivity

A session cannot be continued on another device (watching a movie on laptop and then continuing on a smartphone requires transferring file and starting the movie again) Any Device / Location

Seamless Switching

After: With Cloud

Access files from any Internet-enabled device and from any location (movie saved on DVR at home can be watched on laptop while traveling)

Switch services seamlessly from one device to another (IM exchange on PC can continue on smartphone without restarting the session or losing messages)

	Order new device, wait for delivery, and go through setup process (for example, getting new STB for DVR capability)	Automatic Add	Call or click to enable new capability immediately (e.g., DVR capability from cloud activated using TV remote)			
Devices	When service is down (for example, an STB malfunction), user calls customer care and coordinates with SP to fix the problem	Remote Monitor & Auto Fix	SP remotely monitors for problems and automatically fixes problems when they occur (fault on STB detected and reset overnight)			

Source: Cisco IBSG, 2012

The Market Is Already Using Cloud To Help Resolve Consumers' Needs



In June 2011, **Apple** unveiled **iCloud**, a cloud-computing service that stores music, photos, and documents remotely, as well as eliminating the need to sync devices to a PC



- Comcast announced initiatives in extending and integrating IP technology to improve the customer experience, accelerate new-product launches, and expand cross-platform experiences
- 55 members across industries form digital entertainment content ecosystem called Ultra Violet, developing an open "common file format" standard. Designed to play on any service or device, enabling "buy once, play anywhere."



Comcast, xfinity



Cloud Enhancements Positively Impact Connected Life Service Buying Behavior



On average, 68% of respondents are more likely to buy a Connected Life service if it has even a single cloud enhancement

Source: Cisco IBSG Connected Life Market Watch, 2011

Base: U.S. broadband consumers



How Does Cloud Impact Consumers' Actual Buying Behavior?

How Each Cloud Enhancement Influences Consumers' Assessment of a Connected Life Service

Consumer Attitude	Critical	Differentiating	Mandatory	Neutral	Negative		
Toward a Particular Cloud Enhancement	Consumers are happy when it's present and dissatisfied when it's not	Consumers don't expect it to be included, but thrilled when it is	Consumer expect it to be there. Not thrilled when it is, but very displeased when it is not	Consumers are indifferent to its presence	Consumers are displeased when this enhancement is present		
Enhancement included with your service?	Positive	Positive	Neutral	Neutral	Negative		
Enhancement NOT included with your service?	Negative	Neutral	Negative	Neutral	Neutral		

Source: ASQ, 2005; Cisco IBSG, 2012

Cloud Enhancements Impact Consumers' Reaction to Connected Life

 Each cloud enhancement positively impacts one out of three respondents' reaction to Connected Life services

> 33% is based on average per single cloud enhancement

- Different people value different enhancements; more impact when enhancements combined
- Some enhancements have stronger consumer interest than others

Source: Cisco IBSG, based on Kano methodology, 2011



Base: U.S. broadband consumers

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Demand for Cloud Enhancements Is Expected To Increase

Average Cloud Enhancement Impact on Connected Life Services



Percentage of respondents

Source: Cisco IBSG Connected Life Market Watch, 2011

Base: U.S. broadband consumers

Cloud Is More Powerful as Complete Experience vs. Single Enhancement



75% of consumers see at least one cloud enhancement as *critical, mandatory,* or *differentiating* to Connected Life services Most consumers are influenced by more than one cloud enhancement. For 1 out of 5 respondents, a **complete** cloud experience is key to meeting their Connected Life needs.

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Source: Cisco IBSG Connected Life Market Watch, 2011

Base: U.S. broadband consumers

Some Cloud Experiences Have Stronger Impact than Others

Cloud Enhancement Impact on Connected Life Services Percentage of respondents



Source: Cisco IBSG Connected Life Market Watch, 2011

Base: U.S. broadband consumers

Cloud Enhancements Impact Buying Behavior

Consumers More Likely To Buy When Cloud Enhancements Are Included

Consumer Is	Strong Demand	Remote Monitoring / Auto Fix		-							-	
More Likely To Buy		Single Payment				-						
i o Day		Immediate Access										
		Automatic Data Backup										
		Any-Device Access			-							
		Single Menu			-							
		Auotmatically Add Services			-							
		Unified Data Management										
		Seamless Switching			-			-			_	
		Data Sync										
Consumer Is		Advanced Sharing										
Indifferent	\checkmark	Recommendations		-								
		04	% 10%	۶ ۵ 20%	30%	40%	50%	60%	70%	80%	90%	100%
	Much more likelySomewhat less likelyLess likely				•	Somewhat more likelyMuch less likely						
Source: Cisco	IBSG Connec	cted Life Market Watch, 2011					Bas	e: U.S	S. broa	dband	lconsi	umers

Percentage of Respondents

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Positive Impact of Cloud Enhancements Varies by Targeted Segments



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Differences in Enhancement Priority Also Exist by Segments

Cloud Enhancement Positive Impact on Connected Life Services





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Implications for Service Providers

 To increase adoption potential for Connected Life services, SPs should strategically include cloud enhancements with their offerings



- Therefore, prioritize the enhancements consumers are beginning to expect and strategically add enhancements that can differentiate the services
- Then,
 How much is enough?
 How to prioritize?

 Source: Cisco IBSG, 2012

Cloud Segmentation Can Help Target and Prioritize Enhancements



Source: Cisco IBSG Connected Life Market Watch, 2011

"Significant Cloud Interest" Segment Provides High-Priority Enhancement Prospects

Impact on Connected Life Services for Those with Significant Interest in Cloud



Source: Cisco IBSG Connected Life Market Watch, 2011 Base: U.S. broadband consumers, "significant interest" segment

Key Strategic Considerations

- Prioritizing enhancements to balance coverage / impact and cost (optimization)
- Aligning enhancements to company strategy
 - Expected features vs. differentiation
 - Target segmentation
 - Brand alignment
 - Technology capability
 - Investment requirements

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