Going Beyond
an Application Store

How Wireless Operators Will Win by Putting Consumers
in Control of Their Mobile Content Experience

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QUALCOMM®
Internet Services

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Going Beyond an Application Store

How Wireless Operators Will Win by Putting Consumers in Control of Their Mobile Content Experience
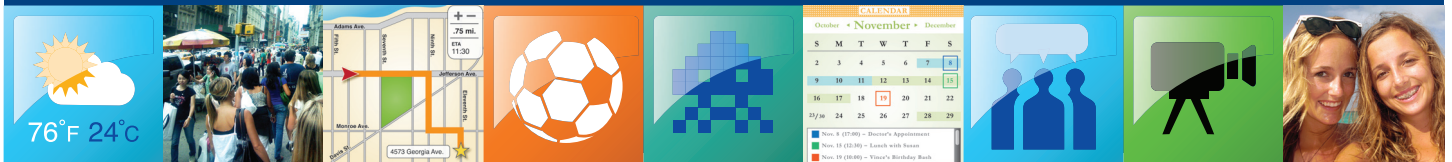
EXECUTIVE SUMMARY

When it comes to Internet content, consumers have an expectation that they are in control—an expectation that developed during the era of "wireline" and "desktop" Internet interfaces. As wireless networks and devices continue to evolve and deliver an always-connected experience to consumers, this expectation of control is already extending into the mobile realm. To win the battle for consumer loyalty in mobile, the industry must think beyond an application store to deliver an engrossing mobile experience that offers more than just "anywhere, anytime" access. It also needs to be highly personalized and tailored for the individual, putting them in control of how they interact with and experience their content—all while being easy to adopt and scalable.

Recent Qualcomm primary research reveals that:

- 63% of mobile users would spend more time accessing online information or would purchase more content if it were personalized and easier to find*
- 80% of users reported experiencing a problem obtaining content on their mobile handsets*
- 58% of users believe it is important that their content moves with them, regardless of their mobile device*

To remain competitive, wireless service providers must embrace this shift toward consumer control and find new ways to deliver value to their consumers. Operators who put consumers in control of their mobile content and integrate it within their overall digital experience will inspire their loyalty.
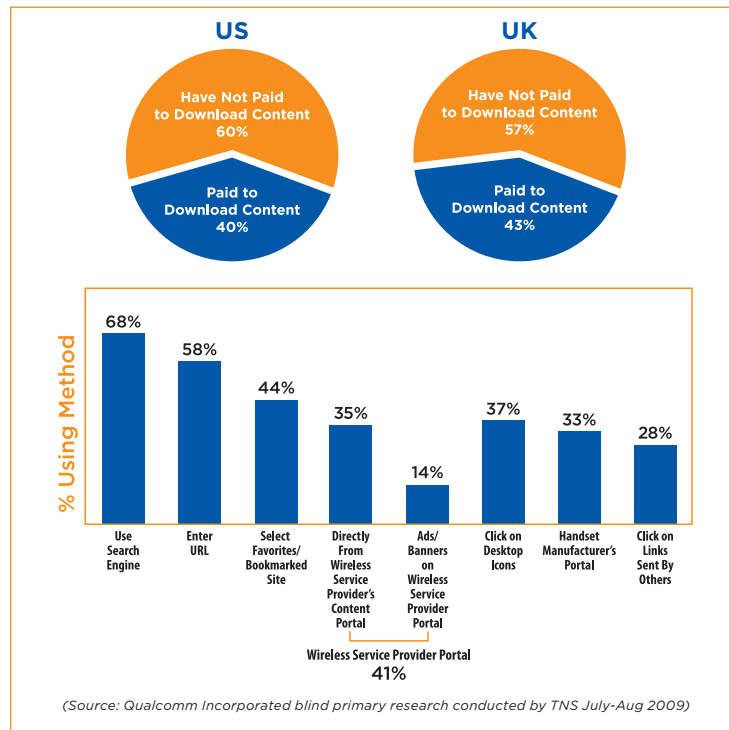
The recent explosion in device-centric application stores and the influx of smart phones and new connected devices into the market is changing consumer expectations around mobile services and applications. While consumers are currently using more mobile content than ever before, current modes of discovery and usage—such as application stores or operator portals—are limiting the mobile content experience from reaching its full potential. Users have a hard time discovering content that is meaningful to them, and when they do, that interaction is constrained to that single device or network.
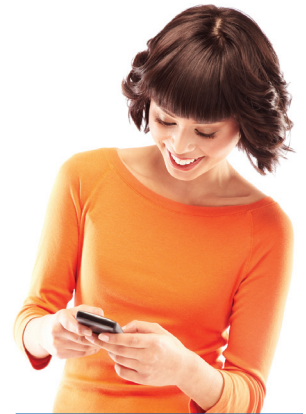
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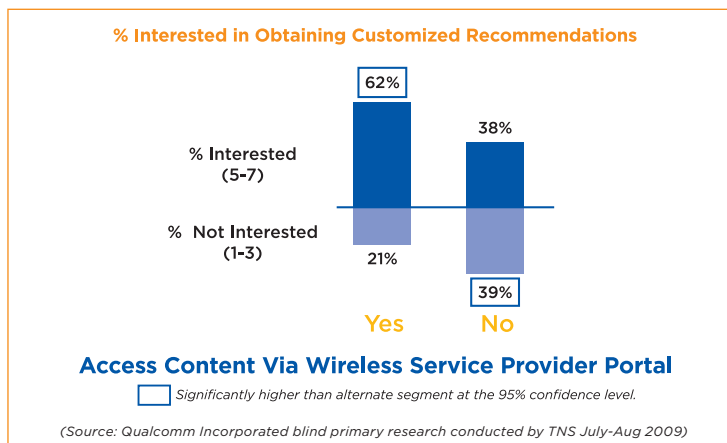
To meet consumer

expectation of

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must help consumers

to effectively

navigate their

content experience.

Overall the market is healthy, with ~40% of users having paid to download mobile applications or content.* *While encouraging in itself, this also indicates that the market for premium applications and content has significant potential for growth.*

US
Have Not Paid to Download Content 60%
Paid to Download Content 40%

UK
Have Not Paid to Download Content 57%
Paid to Download Content 43%

% Using Method

Method	%
Use Search Engine	68%
Enter URL	58%
Select Favorites/Bookmarked Site	44%
Directly From Wireless Service Provider's Content Portal	35%
Ads/Banners on Wireless Service Provider Portal	14%
Click on Desktop Icons	37%
Handset Manufacturer's Portal	33%
Click on Links Sent By Others	28%

Wireless Service Provider Portal 41%

(Source: Qualcomm Incorporated blind primary research conducted by TNS July-Aug 2009)

For consumers to truly embrace the mobile experience as an integral part of their everyday life, content strategies must take into consideration how and when users access the content that is important to them. To meet consumer expectation of control, operators must help consumers to effectively navigate their content experience. They can find new ways to add value by enabling discovery, portability, and—ultimately—engagement.

> DISCOVERY: Help consumers find the content that matters most to them

% Interested in Obtaining Customized Recommendations

% Interested (5-7)
% Not Interested (1-3)

Yes — 62%, 21%
No — 38%, 39%

Access Content Via Wireless Service Provider Portal

Significantly higher than alternate segment at the 95% confidence level.

(Source: Qualcomm Incorporated blind primary research conducted by TNS July-Aug 2009)

*Qualcomm Incorporated blind primary research conducted by TNS July-Aug 2009

> **PORTABILITY:** Allow consumers to take their content, preferences and profiles with them across networks and devices

% Finding it Important to Engage with Content Across Digital Devices

58%

% Important (5-7)

% Not Important (1-3)

25%
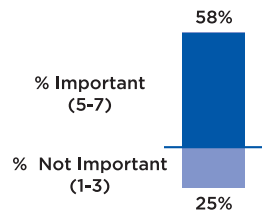
(Source: Qualcomm Incorporated blind primary research conducted by TNS July-Aug 2009)

> **ENGAGEMENT:** Enable consumers to interact meaningfully with the brands they care about

Operators are realizing that they cannot control the consumer experience. Instead, they must find ways to help facilitate the relationship between consumers and the brands and content they care about. Operators are in a unique position to help create a better consumer experience and maintain customer loyalty by leveraging assets such as their existing billing relationships, knowledge of the network, and recommendations technology.

DISCOVERY

Make it personal

For consumers, what matters is that they have the ability to access their preferred content, without interference. Acting as a gatekeeper between consumers and "their content" will only drive a wedge in the relationship. Operators should pursue business models that facilitate the relationship between consumers and the brands and content they care about. By sharing information about their consumers, brands and operators can develop content strategies that take into consideration what content the consumers want, as well as when and where they want it.

App stores can become a victim of their own success, overwrought with too many redundant applications, lackluster offerings or the inability to wade through a sea of applications.
    —Yankee Group: A Few App Stores Too Many, April 30, 2009

Consumers increasingly feel overwhelmed by the abundance of mobile content currently available. As greater volumes of applications and services become available, mobile consumers will struggle even more with finding the content they want—whether they're searching for specific content or trying to browse for something that resonates with them. It is true that consumer brands are in one of the best positions to own the consumer relationship, because their focus has always been on

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5

content. However, with their ability to leverage their knowledge of the network and subscriber base, operators are uniquely positioned to foster the relationships between their subscribers and the content and brands that are important to them.

Bridging the consumer expectation gap

Discovery needs to evolve from search engines and portals to a more dynamic, real-time experience. Consumers shouldn't struggle to find the one app or piece of content among thousands that they care about. It should find them.

Recent Qualcomm primary research reveals that 63% of mobile users would spend more time accessing online information or would purchase more content if it were personalized and easier to find. Consumers are clearly hungry for content, but are still struggling with discovery—*80% of users reported experiencing a problem obtaining content on their mobile handsets.* In both the US and UK, time spent searching and downloading content was the most frequently mentioned problem.*

Traditional methods of search and discovery don't translate well to mobile. Most portals don't optimize content discovery, as they typically tend to showcase the latest or most popular content to a general audience. And though search has long been the preferred method of finding content on the PC, it is ill-suited for mobile due to form factor and consumer expectation. Meaning that when a consumer searches on a PC, they are most likely looking for an answer to a specific question; whereas when mobile, they are looking for information that is more direct and personal.

The operator's ability to facilitate an intelligent and personalized content experience puts them in a unique and valuable relationship with the consumer. Because a mobile device is typically only accessed by one person, it is the ideal mechanism for delivering a tailored and highly personalized content experience. When it comes to content on the phone, relevant content is like a personal call from a trusted friend. Irrelevant content is like a call from a telemarketer.

And it is that frame of mind—that unspoken but heightened expectation of relevance and permission—that makes all the difference when crafting a mobile consumer experience.

Solutions that combine iconic devices, brand loyalty, wide reach and open development characteristics will fare well.

—Yankee Group:
A Few App Stores Too Many,
April 30, 2009

*Qualcomm Incorporated blind primary research conducted by TNS July-Aug 2009

Make it interesting, put content in the right context

When fostering a relationship between the consumer and the content and brands they care about, the operator has an invaluable role to play. By leveraging valuable network assets such as location and user activity, operators can help brands to tailor and deliver contextual content to consumers. The combination of customer intelligence and network information enables the right message to reach the right consumer at the right time—resulting in a valued service that engenders ongoing loyalty. The operator is able to deliver a consumer experience that is always personal, regardless of how, when or where a person chooses to access their content.

Contextual content can be driven by:
- Social networking and sharing
- Location awareness
- Subscriber intelligence (preferences, profiles, past behavior)

John lands in Chicago on a business trip. His mobile device knows this is not his home town and offers him local area maps and points of interest. Unbeknownst to him, his college roommate (and Facebook friend) Mike is also visiting Chicago. John's device informs him that Mike is in Chicago and sends him suggested restaurants and coupons to meet for dinner, knowing that they both frequently eat Italian food.

As you can see from the examples above, for contextual content to thrive, the consumer must be in control to create the experience they want—they should have the power to determine what they share, with whom and how. The experience should be permissions-based and built on a mutually beneficial relationship where the operator is committed to using the consumer's data to create the best possible user experience.

PORTABILITY

Once they've found it, let them keep it

In the desktop world, consumers already have the expectation that they are in control of the content residing on their PC or laptop. As mobile broadband continues to proliferate and new, connected devices enter the market, consumers will also expect to have control over this content while mobile. Because operators are in a position of consumer trust, they will have the opportunity to help consumers navigate this new freedom to access their content from anywhere. And those who succeed in providing this value to the consumer will have the best chance of fostering an ongoing relationship.

The consumer must be in control to create the experience they want—they should have the power to determine what they share, with whom and how.

Research has revealed that 58% of users believe it is important that their content moves with them, regardless of their mobile device.*
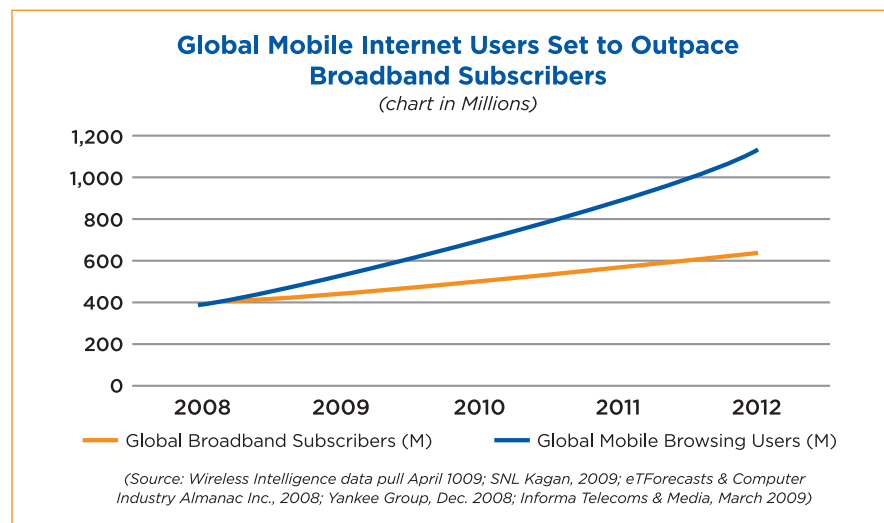
Mobility should be truly liberating for the consumer—to realize this vision of the consumer being in control of their content experience, the content must be portable. It must be available across multiple devices, it must follow the consumer when they upgrade devices, and it must be "stateful"—ready to be picked-up where they left off. **Research has revealed that 58% of users believe it is important that their content moves with them, regardless of their mobile device.*** Many are already asking why the applications in which they have invested time, money and energy won't work on their new device.
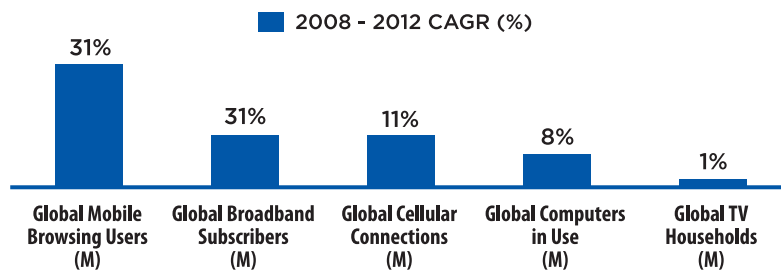

Dan is an avid movie watcher. He purchased a pay per view movie from his cable company, but fell asleep before finishing it. Fortunately his cable company allows him to access this movie and stream it onto his netbook, so he's able to finish watching it the next morning during his commute on the train.

Consumers don't care how they access it, they just want it anytime, anywhere

As mobile broadband continues to become more widespread, consumer demand for content portability will only grow. Mobile broadband provides consumers instant access to their content through the mobile Web and application stores and is driving the demand for new, connected devices to access content wirelessly. With mobile broadband subscribers forecasted to surpass fixed broadband by the end of 2010, mobile will become an increasingly important avenue for the masses to access their content.

Global Mobile Internet Users Set to Outpace Broadband Subscribers
(chart in Millions)

Global Broadband Subscribers (M) ———   Global Mobile Browsing Users (M) ———

(Source: Wireless Intelligence data pull April 1009; SNL Kagan, 2009; eTForecasts & Computer Industry Almanac Inc., 2008; Yankee Group, Dec. 2008; Informa Telecoms & Media, March 2009)

*Qualcomm Incorporated blind primary research conducted by TNS July-Aug 2009

Mobile Internet User Growth Exceeds Other Major Categories Today by at Least 2x to 3x

■ 2008 - 2012 CAGR (%)

Global Mobile Browsing Users (M)	Global Broadband Subscribers (M)	Global Cellular Connections (M)	Global Computers in Use (M)	Global TV Households (M)
31%	31%	11%	8%	1%

(Source: Wireless Intelligence data pull April 1009; SNL Kagan, 2009; eTForecasts & Computer Industry Almanac Inc., 2008; Yankee Group, Dec. 2008; Informa Telecoms & Media, March 2009)

The industry continues to debate the value of native apps vs. Internet-based apps, and what value cloud computing will bring. In fact, the question "what is cloud computing and how long before I have to care and do something about it?" is one of the most frequently posed questions that IT analysts at firms like Gartner and Forrester are fielding from carriers and operators today. Depending on consumer use-case scenarios, mobile content will remain a mixture, as each brings with it a distinct value. For example, native applications are better suited for creating richer application experiences such as games that take advantage of device functionality.

More broadly, both native and Web-based applications have the ability to interact with the operator's network and access information in the cloud, and we expect to see a continuum of cloud-based as well as cloud-enabled applications. Cloud computing—a term admittedly open to many different interpretations depending on one's agenda—fundamentally helps make native applications portable through enabling features such as digital lockers and lifetime rights management. Digital locker functionality residing in the cloud can also leverage consumer intelligence to provide context, knowing what is meaningful to the consumer as well as their device's capabilities.

No matter which definition of cloud computing you subscribe to, one thing is clear: the cloud holds the key to leveling the playing field for mobile consumers. Access to the cloud puts their personal content and media within instant reach, giving them access to applications and content from any connected device. The ability to leverage the cloud also allows for interesting new capabilities such as state management across devices, minimizing the time and frustration of manually adjusting disparate device settings. With control over connectivity, operators have the ability to provide consumers with ubiquitous content access, thereby cementing their value in the minds of users.

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In a world where consumers are in control of their content, operators and brands will need to collaborate to find new areas of value-add that they can provide the consumer.

ENGAGEMENT

Set them free, deliver value that keeps them coming back for more

Once operators and brands have collectively tackled the issues of discoverability and portability, they become well positioned to take on the final obstacle—driving user engagement.

In a world where consumers are in control of their content, operators and brands will need to collaborate to find new areas of value-add that they can provide the consumer. Brands will need to create an experience that fosters dialog beyond the initial sale, and operators will need to find a way to facilitate continued dialog while remaining relevant to consumers. Consumers will ultimately be loyal to the service providers who enable these engagements.

While many phones are currently competing for the sexiest interface, their true value comes from their ability to provide consumers with richer, connected services. The user experience is not about a sexy UI, but rather combining the power of the network and device to create an experience that resides with the consumer.

Consumer engagement also needs to happen across multiple screens—creating mutually reinforcing companion experiences. Below are examples of how these experiences are beginning to appear, and how they may continue to evolve.

- **Disney Keychest:** Disney intends to allow consumers to buy rights to movies so that once purchased they can access and watch on any connected device.
- **Cross Platform Audience Engagement:** Watching a reality show on TV, voting online and then keeping up with the participants via a fan app
- **State Management:** The ability to re-engage with your content from where you left-off. Content can be offered as a service, such as a subscription that allows you to access the same content with any connected device. This model encourages ongoing relationships with incremental revenue opportunities.

When content is stateful, a consumer can start listening to their favorite band's latest album on the Web; pick up where they left off on their phone when they head out the door; and receive targeted updates about upcoming tour dates in their home city via their fan club app—all based on their profile, preferences and state.

Brian likes to play racing games with his son at home on their Xbox. In an attempt to win a round, he's looking to upgrade his car. Though his mobile phone may not be well suited for multi-player racing, he can do things like manage his account and customize his profile via companion content that takes advantage of the characteristics of the device. For example, he can upgrade his car with a new spoiler and tires making it faster for the next time he races at home. Brian is able to engage with his game, whenever and wherever he chooses.

Michelle engaged with a Star Trek fan site from the Internet on her home PC. Having opted in to the "Star Trek Me" experience, the service sends her reminders on her TV for upcoming shows, a text on her phone letting her know the dates of nearby conventions, and recommendations for the latest Star Trek novels appear on her eReader.

The real opportunity for content providers and operators to flourish comes from tailoring experiences to make them meaningful and worthwhile to each unique individual. Operators possess subscriber relationships and intelligence, while content providers bring their unique perspective and knowledge of their customers. Together, the two parties can unite their respective customer expertise and work with device makers to deliver exactly what individual consumers demand. Providing consumers with engaging choices will also help marketers to reinvigorate their brands by reaching the consumers that matter most to them.

HOW WE GET THERE

Technology hurdles

Clearly, creating total mobile experiences requires partnerships between operators, brands, content providers and service providers, and recognition of the fiercely escalating consumer expectations that drive every player in this market. But there is something else more fundamental required—innovation. There are still a number of technological hurdles the industry needs to overcome in order to create the best of all possible consumer experiences. At a glance they are:

- Interoperability
- Always-on mobile connections
- Security & privacy policies
- Mobile identity management

The need for a horizontal approach

The current application store phenomenon has done much to boost consumer awareness. As this awareness grows to mass adoption, sexy user interfaces and free apps will no longer be enough to successfully court consumers. There will be a huge opportunity for those who can create the best over-all consumer experiences beyond an application store—taking into consideration all of the consumer's content and how best to integrate the mobile portion so that it becomes a natural part of their life-style. Operators have the ability to make the content experience consistent and portable, enabling them to work with brands and content publishers to focus on differentiation at the services layer.

The real opportunity for content providers and operators to flourish comes from tailoring experiences to make them meaningful and worthwhile to each unique individual.

"The shift to open mobile is predominantly consumer led, and as such is a necessary evolution for the industry... Those that embrace new business models will be rewarded while those that fail to adapt may struggle to retain even their current set of customers."

—Philip L. Asmundson, Vice Chairman and U.S. Technology, Media & Telecommunications Leader, Deloitte LLP

Ultimately, the ability to guarantee that the content experience truly belongs to the consumer will reside with the operator and their network—and not any single device. Device and OS fragmentation isn't going away—operators must embrace it and find a meaningful way to reach consumers despite the challenges it presents. Creating a common architecture that replicates current content experiences across numerous, incompatible devices and software standards is a complex challenge. This becomes exponentially more difficult when concepts such as intelligent discovery and statefulness are introduced. This challenge will worsen as more and more purpose-built devices enter the market.

A Deloitte survey of telecommunications and technology industry executives shaping the wireless sector in the United States finds that 53 percent of surveyed network carriers believe their current closed business models will no longer exist by 2012. However, only one-quarter of those same executives say their companies have formulated an open mobile strategy for capitalizing on the industry-wide shift.

Fifty-eight percent of executives surveyed believe by 2012, the future of mobile will be driven by open mobile content, with 67 percent of respondents believing open source software will be a "game-changing" force within wireless in the short-term.

Business decisions

Most operators have come to realize that providing a consumer content experience is table stakes. While there are several models available to help them deliver an application store experience, these models will only enable operators to catch-up with consumer expectation rather than exceed it. Those who can deliver an experience that puts the consumer in control of their content experience will be the ones who will really pull ahead in this market.

For operators, network ownership puts them in a unique position that can either make or break their content strategy. As more and more devices rely on their networks for connectivity, there is a short term opportunity to create data plans that encompass all devices that are reasonable and understandable to the consumer. However, if operators are not careful in how they approach offering content and services to consumers across these devices, they can easily fall victim to becoming dumb pipes. Operators have several advantages when it comes to delivering the best consumer content experience—insight into consumer demographics and behaviors, location-awareness, billing relationship and a trusted brand.

To win, operators must put the consumer in control of their content experience. To do this, it will be essential to make foundational investments in:

DISCOVERY: Deploying intelligent recommendations technology to make the experience personal and meaningful to each user

PORTABILITY: Creating an experience that is consistent across devices and allows the consumer to manage their content in a digital locker so that it can be accessed from multiple touch points

ENGAGEMENT: Leveraging network and current subscriber relationships to help facilitate a stronger relationship between consumers and the brands that matter to them

To win,

operators must

put the consumer

in control of

their content

experience.

Qualcomm is

working alongside

our operator

customers to

prepare for these

market transitions

today.

For more information, or to discuss this white paper, please contact:

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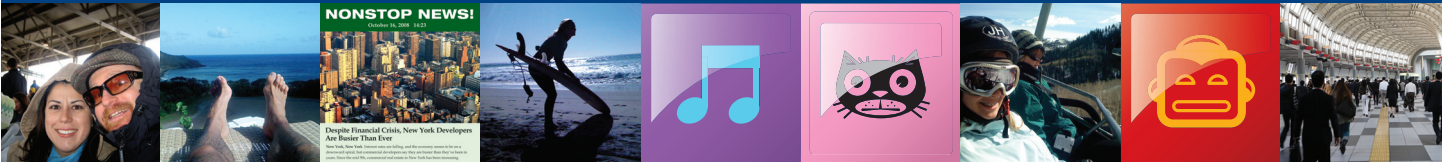**Qualcomm Incorporated blind primary research conducted by TNS July-Aug 2009**
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QISWP-010810

Printed in USA 1/2010