VERIZON WIRELESS OPTIMIZED VIEW FOR MOBILE WEB

WEBSITE DEVELOPERS' GUIDE

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PREFACE

Access to and use of this document and all information and data contained herein is subject to the Website Use Terms and Conditions which can be found at: http://www.verizonwireless.com/b2c/globalText?textName=WEBSITE_USE&jspName=footer/web use.jsp

1. DEFINITIONS

UA String	User Agent String: HTTP request header sent by a web browser to identify itself to a web server.
Mobile UA String	Mobile User Agent String: HTTP request header sent by a mobile device browser to identify itself to a web server.
Optimized View	Adaptation or optimization technology that reformats HTML content for mobile device.
HTML	Hypertext Markup Language

2. INTRODUCTION

Optimized View for Mobile Web is Verizon Wireless' latest Mobile Web enhancement that offers Verizon Wireless subscribers the opportunity to browse full Internet HTML sites on their mobile devices[1]. This capability, which is included as a part of Mobile Web, will expand the range of content that can be viewed, by optimizing HTML pages based on each mobile device's capabilities and screen size. This enhancement will enable users to expand the reach of their mobile browsing experience and bring the mobile device closer to a desktop browsing experience.

The benefit to Verizon Wireless subscribers is to allow them increased access to the World Wide Web beyond the Verizon Wireless Mobile Web portal with a much improved browsing experience.

The benefit for website owners that have not developed a mobile version of their site is that Verizon Wireless subscribers can now access their HTML sites and access to their content that is optimized for presentation via rapid delivery to the Verizon Wireless subscriber's mobile device which can increase traffic to the site without expensive website development costs.

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[1] *Optimized View for Mobile Web* only applies to supported Verizon Wireless consumer WAP 2.0 and HTML devices, and will not be implemented on business specific devices such as PDA's that run Windows Mobile and/or IE (such as Palm® or RIM Blackberry®).
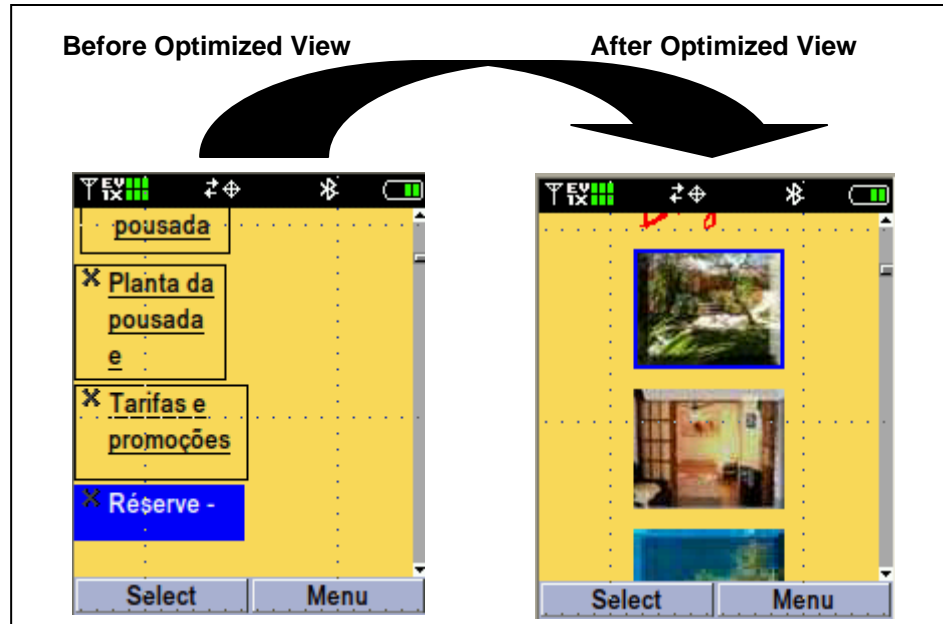
Figure 1: Optimized View for Mobile Web on WAP Device demonstration

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3. HTML OPTIMIZATION

When a Verizon Wireless mobile device requests HTML content and presents HTTP headers to the web server to deliver the HTML site, unless there is an alternate process identified, (see section 5 below) *Optimized View for Mobile Web* then takes the HTML content and formats it for presentation on the mobile device based on that particular device's memory, browser, and supported content types.

With *Optimized View for Mobile Web for Mobile Web*, the integrity of website content remains intact as optimization does not alter or remove the website's content, but merely delivers it in a format manageable for mobile devices. *Optimized View for Mobile Web* for Mobile Web will read the MIME type of the content from the Content-Type header to determine which content is part of the web page and which content is not. Content downloads such as ringtones, games, etc. that are not part of the web page are bypassed and sent directly to the device. There will still be some HTML content that may not be supported on the device (e.g. Flash), and in these cases, the content will be represented either by an image, animated gif, or text.

4. VERIZON WIRELESS OPTIMIZED VIEW INDICATORS

Optimized View will identify itself in the standard HTTP header Via and in the X-Mobile-Gateway header which will contain references to the Verizon Wireless server and version number:
        Via: 1.1 Novarra (Vision/7.3)
        X-Mobile-Gateway: Novarra-Vision/7.3 (VZW; Server-Only)

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5. POINTS FOR CONSIDERATION

For those website owners and operators that prefer to not have their site optimized, there are several alternatives to bypass this solution:

- Alter domain name/URL to follow traditional mobile site naming conventions

- Submit Optimized View for Mobile Web URL Opt-out Request form (link available on the *Optimized View for Mobile Web for Mobile Web* site on the ZON)

- Alter content to include mobile DTD or to identify itself as a mobile MIME type

- Alter HTTP response header Cache-Control to include "no-transform"

A) HANDLING OF THE HTTP REQUEST

If the URL of the mobile site requested indicates that the site is intended for mobile use, then the User Agent string passed to the web server will be that of the mobile device and mobile browser.

Inspecting the URL of a web resource as a possible heuristic to aid in identification of made-for-mobile content is a practice that is described in the current working draft of the *Guidelines for Web Content Transformation Proxies*, authored by the W3C's Mobile Web Best Practices Working Group. That document also describes some of the additional behaviors described later in this Developers' Guide.

The current version of the *Guidelines for Web Content Transformation Proxies* is available at the following URL[2]:

http://www.w3.org/TR/ct-guidelines/

The URL patterns that would signify that a site is designed for mobile use and would therefore trigger bypassing *Optimized View* for Mobile Web are:

m.*	mobile.*	avantango.*
wap.*	*.mobi	iphone.*
<domain>/m/*	<domain>/mobile/*	pda.*
wireless.*	wml.*	xhtml.*
<domain>/m/	<domain>/gmm/	<domain>/portable

If, however, the mobile site requested does not have a URL that matches any of the mobile site naming conventions listed above, then the User Agent string passed to the web server by the Optimized View for Mobile Web server will be that of the server's desktop PC browser so that Verizon Wireless will receive full HTML content for optimization. This means that, unless another alternative process listed in this section has been identified, if a site does not identify content as already designed for mobile

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[2] Additionally, there is a Content Transformation Task Force on W3C addressing that is part of the Mobile Web Best Practices Working Group, which was formed to develop guidelines to get optimization services, mobile browsers, and content providers to work together in a consistent manner. For more information, please visit the following URL: http://www.w3.org/2005/MWI/BPWG/Group/TaskForces/CT/

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browsers and a site is not obviously identifiable as a made-for-mobile site by virtue of its domain name (e.g. http://m.mysite.com , http://mobile.mysite.com, etc.), then *Optimized View for Mobile Web* will by default, attempt to optimize the site for presentation on Verizon Wireless subscriber's mobile device. Note that the original device UA string is still available, in the X-Device-User-Agent header.

B) OPT-OUT REQUEST

If the website owner/operator or authorized individual has submitted a URL opt-out request via the Verizon Wireless ZON *Optimized View for Mobile Web* URL Opt-Out Request process, the UA string passed to the web server will be that of the mobile device and mobile browser such that no optimization will occur.[3]

C) DTD OR MIME TYPE

Regardless of how a webpage's content is requested, *Optimized View for Mobile Web* will also recognize mobile content if any <u>one</u> of the following conditions is met:

Webpage includes an XHTML-mobile or XHTML-basic DTD

- <!DOCTYPE html PUBLIC "-//OMA//DTD XHTML Mobile 1.2//EN" "http://www.openmobilealliance.org/tech/DTD/xhtml-mobile12.dtd">

- <!DOCTYPE html PUBLIC "-//WAPFORUM//DTD XHTML Mobile 1.1//EN" "http://www.wapforum.org/DTD/xhtml-mobile11.dtd">

- <!DOCTYPE html PUBLIC "-//WAPFORUM//DTD XHTML Mobile 1.0//EN" "http://www.wapforum.org/DTD/xhtml-mobile10.dtd">

- <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML Basic 1.1//EN" "http://www.w3.org/TR/xhtml-basic/xhtml-basic11.dtd">

- <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML Basic 1.0//EN" "http://www.w3.org/TR/xhtml-basic/xhtml-basic10.dtd">

1. The response reports one of the following content (MIME) types:

    - Application/vnd.wap.xhtml+xml

    - Text/vnd.wap.wml

2. The response contains the following tag:

    <link rel="alternate" media = "handheld" href=www.mobileversion.com/>

D) X-DEVICE HEADERS

Optimized View for Mobile Web will send a Mozilla-compatible User-Agent string in the User-Agent header as the primary identifier; however, a secondary identifier is also included in the header called the X-Device-User-Agent.   To recognize that a request is coming from a Verizon Wireless mobile device via *Optimized View for Mobile Web*, site developers have the option to develop their code in order to recognize the X-Device-User-Agent and extract the value from that header. This means that the site developer

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[3] Please allow up to 30 days for implementation of an opt-out of Optimized View request. Verizon Wireless will try to implement requests as quickly as possible after validation of URL Opt-out request. Multiple submissions of the same URL will only encumber the process. Thank you.

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can choose to use the X-Device-User-Agent to recognize that the request is coming from a mobile device and respond accordingly.

If the site developer chooses to return mobile content with a DTD specification that is not mobile or without a DTD, then in those instances, the content will be optimized.

```
$headers = apache_request_headers ( ) ;
$HTTP_USER_AGENT=$headers ["User-Agent"];
```

Figure 2: Example of PHP code to obtain User Agent from direct request

```
$headers = apache_request_headers ( ) ;
If ( !$headers [ "X-Device-User-Agent" ] ) {
$HTTP_USER_AGENT=$headers ["User-Agent" ] ;
} else {
$HTTP_USER_AGENT=$headers [ "X-Device-User-Agent"] ;
// X-Device-User-Agent string detected
}
```

Figure 3: Modified PHP code to obtain User-Agent string through Optimized View for Mobile Web

There are additional headers whose values are replaced by *Optimized View for Mobile Web* and whose original values are presented in alternate X-Device- headers.

Should you wish for your site to recognize these headers, similar minor modification to PHP example above should allow you to view the *Optimized View for Mobile Web* requests.

The additional headers whose values (indicating particular features & capabilities of a mobile device) are replaced by *Optimized View for Mobile Web* during the optimization process follow:

Original Mobile Device Header	Renamed Mobile Device Header by Optimized View
Accept	X-Device Accept
Accept-Charset	X-Device-Accept-Charset
Accept-Encoding	X-Device-Accept-Encoding
Accept-Language	X-Device-Accept-Language
User-Agent	X-Device-User-Agent

Optimized View for Mobile Web will reveal itself in the standard HTTP header Via and X-Mobile-Gateway header through references to the *Optimized View for Mobile Web* server and version number:

Via: 1.1 Novarra (Vision/7.3)
X-Mobile-Gateway: Novarra-Vision/7.3 (VZW; Server-Only)

E) OPT-OUT ERROR

If you believe that an opt-out request to remove your URL from optimization through Optimized View for Mobile Web has been fraudulently or inadvertently submitted, please send a request to reactivate your URL for optimization. Upon validation of this request with your domain Administrative Contact your URL will be removed from the opt-out list and made available to Verizon Wireless subscribers through Optimized View for Mobile Web.

Verizon Wireless will maintain a list of submissions and reserves the right to deny any request for any reason.

In your request to Verizon Wireless, you must include your contact information as well as the registered Administrative Contact for the domain(s) you wish to have included in Optimized View for Mobile Web.

Thank you.

Request to opt-in to Optimized View for Mobile Web:
OptimizedViewOpt-In@VerizonWireless.com