



# UA string and UA profile customization guide

Customization Guide

Customer Support

MT6000

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|          |            |            |                         |
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## Table of Contents

|   |           |
|---|-----------|
| <b>Document Revision History.....</b>                                 | <b>3</b>  |
| <b>Table of Contents.....</b>   | <b>4</b>  |
| <b>Lists of Tables .....</b>  | <b>6</b>  |
| <b>Lists of Figures .....</b>   | <b>7</b>  |
| <b>1 Introduction .....</b>   | <b>8</b>  |
| 1.1 Purpose .....   | 8         |
| 1.2 Scope .....   | 8         |
| 1.3 Who Should Read This Document .....                               | 8         |
| 1.4 How to Use This Manual .....                                      | 8         |
| 1.4.1 Terms and Conventions .....                                     | 9         |
| <b>2 Customization items list .....</b>                               | <b>10</b> |
| <b>3 Abbreviations .....</b>  | <b>11</b> |
| <b>4 Overview .....</b>   | <b>12</b> |
| 4.1 Architecture .....  | 12        |
| <b>5 Detailed Customization Procedure .....</b>                       | <b>13</b> |
| 5.1 What's UA string .....  | 13        |
| 5.2 How to modify Browser UA string.....                              | 13        |
| 5.2.1 For GB2.MP .....  | 13        |
| 5.2.2 For GB3.MP, GB5.MP .....  | 14        |
| 5.2.3 For ICS.MP, ICS2.MP .....                                       | 15        |
| 5.2.4 For JB.MP, JB2.MP, JB3.MP, JB5.MP, JB7.MP, JB9.MP, KK1.MPx..... | 15        |
| 5.2.5 For KK.AOSP, LO.MPx,L1.MPx,M0.MPx .....                         | 15        |
| 5.3 What's UA profile .....   | 16        |
| 5.4 How to modify Browser UA profile URL .....                        | 16        |
| 5.4.1 For GB2.MP, GB3.MP, GB5.MP .....                                | 16        |
| 5.4.2 For ICS.MP, ICS2.MP .....                                       | 17        |
| 5.4.3 For JB.MP, JB2.MP, JB3.MP, JB5.MP, JB7.MP, JB9.MP, KK1.MPx..... | 18        |
| 5.4.4 For KK.AOSP, LO.MPx,L1.MPx,M0.MPx .....                         | 18        |



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Table of Contents

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Lists of Tables

Table 1-1. Chapter Overview ..... 8

Table 1-2. Conventions ..... 9

Table 3-1. Abbreviations ..... 11



Lists of Figures

Figure 4-1. Browser Architecture..... 12

Figure 5-1.UA String ..... 13

Figure 5-2.UA Profile Info..... 16

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# 1 Introduction

## 1.1 Purpose

UA string is used by the communications partner to characterize the client and optionally select suitable content or operating parameters for the session.

The User Agent Profile (UAProf) specification is concerned with capturing capability and preference information for wireless devices. This information can be used by content providers to produce content in an appropriate format for the specific device.

A UAProf file describes the capabilities of a mobile handset, including Vendor, Model, Screensize, Multimedia Capabilities, Character Set support, and more. It typically have the file extensions "rdf" or "xml"

All customization code used in this document is in Browser app. And the code path is :

`vendor/mediatek/proprietary/packages/apps/Browser/`

## 1.2 Scope

The document provide the programming details of the UA and UA Profile.

## 1.3 Who Should Read This Document

This document is primarily intended for:

- Engineers with technical knowledge of the browser
- Customers who want to customize the browser UA and UA profile

## 1.4 How to Use This Manual

This segment explains how information is distributed in this document, and presents some cues and examples to simplify finding and understanding information in this document. **Error! Reference source not found.** presents an overview of the chapters and appendices in this document.

**Table 1-1. Chapter Overview**

| # | Chapter      | Contents   |
|---|--------------|--|
| 1 | Introduction | Describes the scope and layout of this document. |
|   |              |  |
|   |              |  |



### 1.4.1 Terms and Conventions

This document uses special terms and typographical conventions to help you easily identify various information types in this document. These cues are designed to simply finding and understanding the information this document contains.

**Table 1-2. Conventions**

| Convention  | Usage  | Example  |
|-------------|--|--|
| [1]         | Serial number of a document in the order of appearance in the References topic | Look up Chapter 2: System Architecture in [1]                  |
| void xx(zz) | Source code  | static int __stdcall cb_download_blocker_init(void *usr_arg){} |
| ☞           | Important  |  |
|             |  |  |

## 2 Customization items list

---

Customization items list is as follows:

1. What's UA
2. How to modify Browser UA string
3. What's UA profile
4. How to modify Browser UA profile URL

### 3 Abbreviations

Please note the abbreviations and their explanations provided in **Error! Reference source not found..** They are used in many fundamental definitions and explanations in this document and are specific to the information that this document contains.

**Table 3-1. Abbreviations**

| Abbreviations     | Explanation   |
|-------------------|---|
| MTK               | MediaTek, Asia's largest fabless IC design company. |
| UA String         | User Agent String                                   |
| UA String Profile | User Agent String Profile                           |
|                   |   |
|                   |   |

4 Overview

This chapter first gives a brief description of the modules of the system and the relationship of the modules.

4.1 Architecture

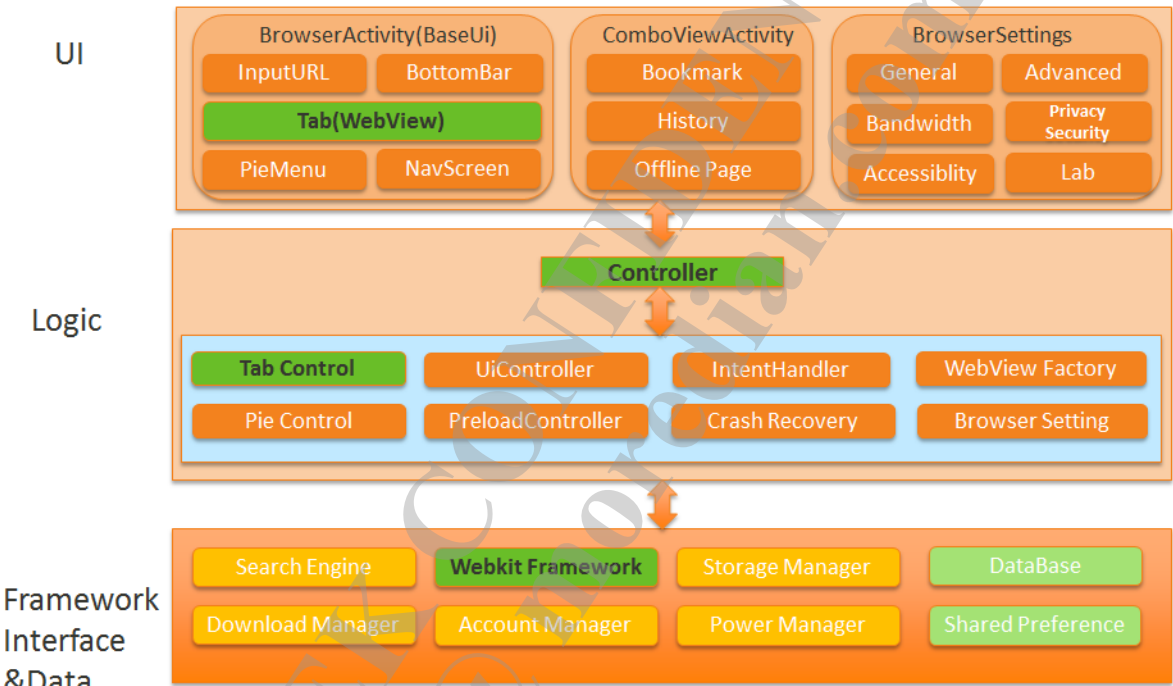


Figure 4-1. Browser Architecture

The description of the directories and their subdirectories is given below:

- com/android/browser Contains the top-level source directory
- com/android/browser/BrowserSettings.java Contains the browser user agent entity

## 5 Detailed Customization Procedure

### 5.1 What's UA string

UA string is used by the communications partner to characterize the client and optionally select suitable content or operating parameters for the session.

For example, this may be used to provide properly formatted content for desktop computers and for Smart Phones. This string is added to HTTP header: "User-Agent"

```
Accept: image/gif, image/x-xbitmap, image/jpeg, image/pjpeg, application/x-shockwave-flash, application/x-ms-application, application/x-ms-xbap, application/vnd.ms-xpsdocument, application/xaml+xml, application/vnd.ms-excel, application/vnd.ms-powerpoint, application/msword, */*
Accept-Language: zh-cn
UA-CPU: x86
Accept-Encoding: gzip, deflate
User-Agent: Mozilla/4.0 (compatible; MSIE 7.0; Windows NT 5.1; .NET CLR 2.0.50727; .NET CLR 3.0.04506.648; .NET CLR 3.5.21022)
```

This is a UA string

Figure 5-1. UA String

### 5.2 How to modify Browser UA string

#### 5.2.1 For GB2.MP

- Code position:
  - packages/apps/Browser/src/com/android/browser/**BrowserSettings.java**
- Class and Method:
  - **BrowserSettings.Observer.update**(Observable o, Object arg)
- Modification:
  - Use "**WebSettings.setUserAgentString**("your UA string");" to set your UA string (example code is in next page).

```
public void update(Observable o, Object arg) {
    ...
    if (b.userAgent == 0) {
        ...
        if (optr != null && optr.equals("OP01")) {
            ...
            s.setUserAgentString("xxxxxx");
        } else if (optr != null && optr.equals("OP02")) {
            ...
            s.setUserAgentString("xxxxxx");
        } else {
            s.setUserAgentString(null);
        }
    }
    ...
}
```

For  
OP01

For  
OP02

Note: If you want to set your UA string for operator project or as default, you will change the code boxed in red block to "s.setUserAgentString("your UA string");"

## 5.2.2 For GB3.MP, GB5.MP

### ■ Method 1: (for using operator plug-in)

- Code position:
  - mediatek/operator/OPxx/packages/apps/Plugins/src/com/mediatek/browser/plugin/OpxxBrowserSmallFeatureEx.java (xx is the operator number, such as "01, 02, ...")
- Class and Method:
  - OpxxBrowserSmallFeatureEx.getOperatorUA(String defaultUA)
- Modification:
  - Add your UA into the method "getOperatorUA()" or modify the existed one.

```
public String getOperatorUA(String defaultUA) {
    return xxxxxx;
}
```

Your UA string

### ■ Method 2: (for no operator plug-in)

- Code position:
  - packages/apps/Browser/src/com/android/browser/BrowserSettings.java
- Class and Method:
  - BrowserSettings.Observer.update(Observable o, Object arg)
- Modification:
  - Use "WebSettings.setUserAgentString("your UA string");" to set your UA string (example code is in next page).

```
public void update(Observable o, Object arg) {
    ...
    if (b.userAgent == 0) {
        ...
        if (operatorUA != null) {
            s.setUserAgentString(operatorUA);
        } else {
            s.setUserAgentString(null);
        }
    }
    ...
}
```

Note: If you want to set your UA string as default, you will change the code boxed in red block to "s.setUserAgentString("your UA string");"

### 5.2.3 For ICS.MP, ICS2.MP

- Code position:
  - packages/apps/Browser/src/com/android/browser/BrowserSettings.java
- Class and Method:
  - BrowserSettings.syncSetting(WebSettings settings)
- Modification:
  - Use "WebSettings.setUserAgentString("your UA string");" to set your UA string (example code is in next page).

```
String ua = mCustomUserAgents.get(settings);
If (ua != null) {
    settings.setUserAgentString(ua);
} else {
    ...
    if (optr != null && optr.equals("OP01")) {
        ...
        if (getUserAgent() == 0) {
            settings.setUserAgentString("xxxxxx");
        } else {
            settings.setUserAgentString(USER_AGENT[getUserAgent()]);
        }
    } else if (optr != null && optr.equals("OP02")) {
        ...
        if (getUserAgent() == 0) {
            settings.setUserAgentString("xxxxxx");
        } else {
            settings.setUserAgentString(USER_AGENT[getUserAgent()]);
        }
    } else {
        settings.setUserAgentString(USER_AGENT[getUserAgent()]);
    }
}
```

For  
OP01

For  
OP02

Note: If you want to set your UA string for operator project or as default, you will change the code boxed in red block to "settings.setUserAgentString("your UA string");"

### 5.2.4 For JB.MP, JB2.MP, JB3.MP, JB5.MP, JB7.MP, JB9.MP, KK1.MPx

- UA position:
  - mediatek/config/xxx/custom.conf
- Modification:
  - Add your UA to the filed "browser.UserAgent" or modify the existed one.
  - Such as:  
browser.UserAgent = xxxxxx

\*Note: "xxx" is your project name. If the file custom.conf does not exist in your project folder, you can copy it from "mediatek/config/common/custom.conf" as the template.

### 5.2.5 For KK.AOSP, L0.MPx,L1.MPx,M0.MPx

- UA position:
  - device/mediatek/xxx/custom.conf
- Modification:
  - Add your UA to the filed "browser.UserAgent" or modify the existed one.
  - Such as:
   
browser.UserAgent = xxxxxx

\*Note: "xxx" is your project name. If the file custom.conf does not exist in your project folder, you can copy it from "device/mediatek/common/custom.conf" as the template.

### 5.3 What's UA profile

The User Agent Profile (UAProf) specification is concerned with capturing capability and preference information for wireless devices. This information can be used by content providers to produce content in an appropriate format for the specific device.

A UAProf file describes the capabilities of a mobile handset, including Vendor, Model, Screensize, Multimedia Capabilities, Character Set support, and more. It typically have the file extensions ".rdf" or ".xml"

A mobile handset sends a header within an http request, containing the URL to its UA Profile.

The http header is usually "x-wap-profile".

|                 |   |
|-----------------|---|
| accept-encoding | gzip  |
| accept-language | zh-CN, en-US  |
| cookie          | JSESSIONID=CC5121FD055493891155EB99F4A8D502; _utma=135980773.1009407408.1262381599.1262381599. _utmc=135980773; _utmz=135980773.1262381599.1.1.utmccn=(direct) utmcs= |
| user-agent      | Mozilla/5.0 (Linux; U; Android 2.3.1; zh-cn; zte73v1.2 (KHTML, like Gecko) Version/4.0 Mobile Safari/533.1  |
| x-wap-profile   | http://wap1.mtk.com.tw/smallp/  |

This is a URL which locate its UA profile. It is customized by OEM

Figure 5-2.UA Profile Info

### 5.4 How to modify Browser UA profile URL

#### 5.4.1 For GB2.MP, GB3.MP, GB5.MP

- Code position:
  - frameworks/base/core/java/android/webkit/BrowserFrame.java
- Class and function:
  - BrowserFrame.startLoadingResource(
   
int loaderHandle, String url, String method,



HashMap headers, byte[] postData, long postDataIdentifier,  
int cacheMode, boolean mainResource,  
boolean userGesture, boolean synchronous,  
String username, String password)

- Modification:

- Add your URL into the header field "x-wap-profile" (example code is in next page).

```
private LoadListener startLoadingResource(
    int loaderHandle, String url, String method, HashMap headers,
    byte[] postData, long postDataIdentifier, int cacheMode,
    boolean mainResource, boolean userGesture, boolean synchronous,
    String username, String password) {
    ...
    String optr = SystemProperties.get("ro.operator.optr");
    if (optr.equals("OP01") || optr.equals("OP02")) {
        headers.put("x-wap-profile", "xxxxxx");
    }
    ...
}
```

Note: If you want to set your URL which locating your UA profile, you will change the code boxed in red block to "headers.put("x-wap-profile", "your URL")"

## 5.4.2 For ICS.MP, ICS2.MP

- Code position:

- external/webkit/Source/WebCore/loader/FrameLoader.cpp

- Class and function:

- void FrameLoader::addExtraFieldsToRequest(

ResourceRequest& request, FrameLoadType loadType,

bool mainResource, bool cookiePolicyURLFromRequest)

- Modification:

```
void FrameLoader::addExtraFieldsToRequest(ResourceRequest& request,
    FrameLoadType loadType, bool mainResource, bool cookiePolicyURLFromRequest)
{
    ...
    // Add x-wap-profile for operator spec UA profile
    request.setHTTPHeaderField("x-wap-profile", "xxxxxx");
    ...
}
```

Note: If you want to set your URL which locating your UA profile, you will change the code boxed in red block to "request.setHTTPHeaderField("x-wap-profile", "your URL")"

### 5.4.3 For JB.MP, JB2.MP, JB3.MP, JB5.MP, JB7.MP, JB9.MP, KK1.MPx

- UA position:
  - mediatek/config/xxx/custom.conf
- Modification:
  - Add your UA profile URL into the filed "browser.UAProfileURL" or modify the existed one.
  - Such as:  
browser.UAProfileURL = xxxxxx

\*Note: "xxx" is your project name. If the file custom.conf does not exist in your project folder, you can copy it from "mediatek/config/common/custom.conf" as the template.

### 5.4.4 For KK.AOSP, L0.MPx,L1.MPx,M0.MPx

- UA position:
  - device/mediatek/xxx/custom.conf
- Modification:
  - Add your UA profile URL into the filed "browser.UAProfileURL" or modify the existed one.
  - Such as:  
browser.UAProfileURL = xxxxxx

\*Note: "xxx" is your project name. If the file custom.conf does not exist in your project folder, you can copy it from "device/mediatek/common/custom.conf" as the template.