Mobile Push and Remote Configuration Services in China

A survey of services provides by Umeng+, Alibaba Cloud and HUAWEI

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| --- | --- | --- | --- |
| Version | Date | Description | Author |
| 1.0 | 2020/04/23 | An initial summary of Umeng+ and Alibaba push notification services.   * Focus on service costs and differences. | Kris |
| 2.0 | 2020/05/08 | * Add Table of Contents * Fix typos. * Update the content of Alibaba Mobile Push and Remote Config.. * Add HUAWEI services | Kris |

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# 1 Umeng+

Umeng+ provides U-Push Service for push notifications and in-app messages services.

## 1.1 U-Push

Official website: <https://www.umeng.com/push>

### 1.1.1 Push notifications

The following is the notification template provided by U-Push.

|  |
| --- |
|  |
| Push notifications Demo |

### 1.1.2 In-app Messaging

U-Push provides 4 types of in-app messages.

1. full-screen image
2. interstitial image
3. text-only
4. Custom layout (with 1 image & 2 buttons)

|  |  |  |
| --- | --- | --- |
|  |  |  |
| full-screen image | interstitial image | Text-only |
|  | | |
| Custom layout (with 1 image & 2 buttons) | | |

### 1.1.3 Multi-Vendor channel Integration

Integrate multi-vendor channel ex. HUAWEI, Xiaomi, MEIZU, OPPO, Vivo.

The vendor channel can be used to push notifications when the app is closed.

## 1.2 Pricing

### 1.2.1 Free VS. Pro

Umeng+ provides a Pro version for advanced usage.

<https://developer.umeng.com/docs/67966/detail/149295>

\*Umeng+ provides different pricing sets depending upon demands.

\*Submit the business consulting for more detailed pricing for Pro version.

|  |  |  |
| --- | --- | --- |
| **Function items** | **Free** | **Pro** |
| Push speed | 500,000 items / sec | 1,000,000 items / sec |
| Push restrictions | Broadcast: 10 times / day  Groupcast: 5 times / min  Filecast: 300 times / hour  Customcast: 300 times / hour | Unlimited  (The limit can be adjusted) |
| Uninstall statistics | Uninstallation trend within 30 days  ＊Not support export | Uninstallation trend within 30 days  ＊Supports export of uninstalled device details (12 times/year) |
| User Tag changes effective day | T + 1 | Immediately |
| Auto Callback API (Send / Open) | X | V |
| User-defined tags management | X | V |
| VIP technical support | X | V  \*Custom technical support |

## 1.3 U-Push SDK Integration

* SDK download center: <https://developer.umeng.com/>
* SDK integration document: <https://developer.umeng.com/docs/67966/detail/98581>

# 2 Alibaba Cloud (a.k.a. Aliyun)

## 2.1 Enterprise Mobile Application Studio (EMAS)

A one-stop mobile developer service platform including a wide range of services, such as network services, test monitoring, user operation, etc., that makes the mobile application development process simpler and more efficient.

Enterprise Mobile Application Studio (EMAS) integrates the following services:

* [Mobile Push](#_tentjq9j5i6w)
* HTTPDNS
* Mobile Hotfix
* Mobile Testing
* Mobile Analytics
* User feedback
* Crash analysis

### 2.1.1 References

* Official website: <https://cn.aliyun.com/product/emas>
* Product Introductions: <https://help.aliyun.com/document_detail/65953.html?spm=a2c4g.11186623.6.542.13486484y7kVmz>

## 2.2 Mobile Push

There are 2 types of mobile push: notification and message.

*Ref.* [*Instruction Manual for Alibaba Cloud Mobile Push (Chinese ver.)*](https://help.aliyun.com/product/30047.html?spm=a2c4g.11186623.6.540.22f32fb4djKaEw)

### 2.2.1 Push Notifications

Show on the notification bar after receiving it.

Implement the following functions to process the received notifications.

|  |
| --- |
| @Override public void onNotification(Context context, String title, String summary, Map<String, String> extraMap) { }  @Override public void onNotificationOpened(Context context, String title, String summary, String extraMap) { }  @Override protected void onNotificationClickedWithNoAction(Context context, String title, String summary, String extraMap) { }  @Override protected void onNotificationReceivedInApp(Context context, String title, String summary, Map<String, String> extraMap, int openType, String openActivity, String openUrl) { }  @Override protected void onNotificationRemoved(Context context, String messageId) { } |

### 2.2.2 In-app Messaging

Implement the following functions to process the received messages.

Show the received messages by a self-defined layout.

*Ref.* [*https://help.aliyun.com/document\_detail/53546.html*](https://help.aliyun.com/document_detail/53546.html)

|  |
| --- |
| @Override public void onMessage(Context context, CPushMessage cPushMessage) {  buildMessage(context, cPushMessage); } |

## 2.3 Pricing

There are 3 types of pricing.

1. Pay-per-use (charging depends on different services)
2. Pre-paid plan (charging depends on different services)
3. EMAS set (including all services)

### 2.3.1 Pay-per-use

|  |  |  |
| --- | --- | --- |
| **Service** | **Free** | **Price** |
| Mobile Push | 50,000 devices / month | (> 50,000)  ¥0.06 / device |

### 2.3.2 Pre-paid plan for Mobile Push

*Ref.* [*Pricing*](https://help.aliyun.com/document_detail/35315.html?spm=a2c4g.11186623.2.23.19b03991sBp4yP)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Set** | **Valid period** | **Device amount**  **(unit: 10,000)** | **Price**  **(total)** | **Price**  **(per device)** |
| #1 | 12 months | 1 | ¥498 | ¥0.049 |
| #2 | 12 months | 10 | ¥4,500 | ¥0.045 |
| #3 | 12 months | 100 | ¥32,499 | ¥0.032 |
| #4 | 12 months | 500 | ¥129,999 | ¥0.026 |

### 2.3.3 EMAS set

<https://cn.aliyun.com/product/emas>

There are 3 billing plans (Basic, Standard, Pro) for EMAS sets.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Service** | **Free** | **Basic** | **Standard** | **Pro** |
| Mobile Push (device / month) | 50,000 | 100,000 | 200,000 | 500,000 |
| Mobile Hotfix (device / month) | 50,000 | 100,000 | 200,000 | 500,000 |
| Basic Testing (device-time / month) | - | 150 | 300 | 750 |
| Remote Testing (minute / month) | - | 120 | 240 | 600 |
| HTTPDNS (time / month) | 1,500,000 | 10,000,000 | 20,000,000 | 50,000,000 |
| **Price (¥ / month)** | **0** | **4,000** | **10,000** | **25,000** |

## 2.4 Remote Configuration

Alibaba Cloud provides Remote Configuration Services in EMAS only for Private Cloud subscriptions.

*Ref.* [*Remote Configuration in EMAS*](https://help.aliyun.com/product/88006.html?spm=a2c4g.11186623.6.540.235db3dcoWQZ20)

The subscription fee for Private Cloud is at least ¥50w / year. We are still waiting to consult with their system architects for detailed fee information.

For Free, Alibaba Cloud provides only Application Configuration Management (ACM) service.

*Ref.* [*Alibaba Cloud ACM (English ver.)*](https://www.alibabacloud.com/product/acm?spm=a2796.7960336.8215766810.100.3373b91a6Kny6D)

\*To implement Remote configuration in China, we may consider [HUAWEI AppGallery Connect](#_allgyek8swgi) in the next section.

## 2.5 EMAS SDK Integration

Please refer to [*Android EMAS Integration Manual*](https://help.aliyun.com/knowledge_detail/68655.html?spm=a2c4g.11186623.2.15.55515e2a7B6326).

\*The configuration file (aliyun-emas-services.json) can be downloaded from the EMAS console.

* [Settings Configuration for Android 3.0](https://help.aliyun.com/document_detail/51056.html?spm=a2c4g.11186623.4.1.223f614dVxGQdc)
* [Advanced Settings for Android 8.0 and above](https://help.aliyun.com/knowledge_detail/67398.html?spm=a2c4g.11186623.2.13.18561146iCwhlj)   
  For Android 8 (API Level 26) and above, NotificationChannel must be set up to receive the notification.

# 3 Umeng+ VS. Alibaba Cloud

The differences between Umeng U-Push and Alibaba Cloud EMAS are that

* **Alibaba EMAS integrates Mobile Analytics and other services**  
  You can see the analysis on the same platform console.  
  However, Umeng+ provides U-App Analysis SDK that is already integrated into KineMaster. We can get the analytics in the U-App console.
* **Alibaba Cloud provides remote configuration services**
* **Umeng+ U-Push provide custom notification/message layout and an independent testing environment for Mobile push**Umeng provides the template for both notifications and messages, but Alibaba does not. We need to arrange the layout after receiving notifications/messages.
* **Umeng+ U-Push shares the same push channel within different apps.**When KineMaster is closed, it can still receive the push notification if the user opens another app that also includes U-Push.

|  |  |  |
| --- | --- | --- |
| **Features** | **Umeng+ U-Push** | **Alibaba Cloud EMAS** |
| Push notifications | V  \*Provide templates  \*Support custom notification layout | V |
| In-app Messaging | V  \*Provide templates  \*Support custom message layout | V |
| Vendor channels Integration | V  (HUAWEI, Xiaomi, MEIZU, OPPO, Vivo) | V  (HUAWEI, Xiaomi, MEIZU, OPPO, Vivo) |
| Mobile Analytics | ▲  \*U-App SDK integration need  \*Already includes in KineMaster | V |
| Price  (depend upon demands) | [Free VS. Pro](#_djd9h27kllu) | [Pricing](#_tentjq9j5i6w) |
| Independent Testing environment for Mobile Push | V | X |
| Remote Config | X | V  \*Only for Private Cloud subscription  \*Click [here](#_v04frdhgwqb) for more details |

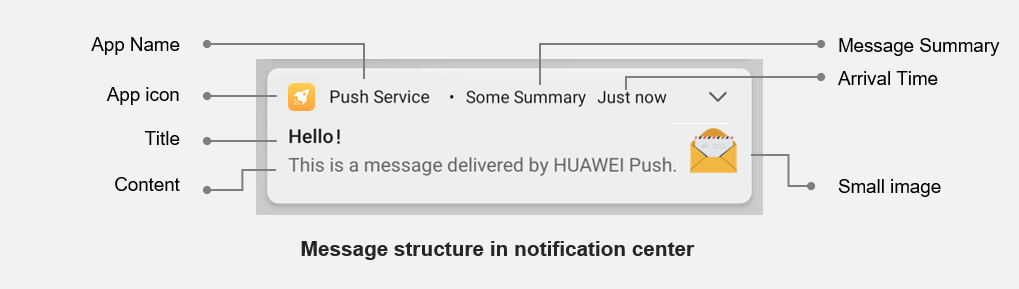
# 4 HUAWEI

## 4.1 Push Kit for push notification

Ref. [HUAWEI Push Kit Service Introduction](https://developer.huawei.com/consumer/en/doc/development/HMS-Guides/push-introduction)

HUAWEI Push Kit is a messaging service for push notifications.

The following is the notification messages structure provided by HUAWEI Push Kit.



## 4.2 AppGallery Connect

HUAWEI [AppGallery Connect](https://developer.huawei.com/consumer/en/agconnect)(AGC) is a one-stop open platform that covers the entire app lifecycle: innovation, development, distribution, operation, and analysis.

Their services include

* Auth Services,
* Cloud Functions,
* Cloud DB,
* Crash,
* A/B Testing,
* [Remote Configuration](#_allgyek8swgi),
* App Linking, and
* [App Messaging (beta)](#_62qq9erewr8o)

### 4.2.1 In-App Messaging (beta)

*Ref.* [*AGC App Messaging (English ver.)*](https://developer.huawei.com/consumer/en/doc/development/AppGallery-connect-Guides/agc-appmessage-introduction)

\*App Messaging is still in beta state. To use App Messaging, send an email to agconnect@huawei.com for application.

### 4.2.2 Remote Configuration

*Ref.* [*AGC Remote Configuration (English ver.)*](https://developer.huawei.com/consumer/en/doc/development/AppGallery-connect-Guides/agc-remoteconfig-introduction)

By integrating the client SDK, your app can periodically obtain parameter values delivered on the console to modify the app's behavior and appearance.

#### 4.2.2.1 Parameter Management

Define the parameters using the same names used in your app. For each parameter, you can set the default value (that will override the corresponding in-app default value) and conditional values.

#### 4.2.2.2 Condition Management

There are some filters to add a condition.

|  |  |  |
| --- | --- | --- |
| **Filter** | **Operations** | **Description** |
| Version | Include, Exclude, Equal, Include regular expression | For an Android app, the version number is sourced from the value of *VersionName*. |
| Language | == |  |
| Country/Region | == |  |
| Audience | Audience union set, !Audience union set |  |
| User attribute | Text (Include, Exclude, Equal, Include regular expression),  Digit ( <, <=, =, !=, >=, > ) |  |
| User percentage | <=, > |  |
| Date and Time | <=, > | The current time of the device. |
| OS Version | Include, Exclude, Equal, Include regular expression | Currently, only the Android OS is supported. |

#### 4.2.2.3 Version Management

Remote Configuration supports management and rollback of up to 300 versions for parameters and conditions.

## 4.3 HUAWEI SDK Integration

For Push Kit, please refer to [Integrating the HMS SDK (English ver.)](https://developer.huawei.com/consumer/en/doc/development/HMS-Guides/Preparations).

For AppGallery Connect(AGC), please refer to [*Getting Started with Android (English ver.)*](https://developer.huawei.com/consumer/en/doc/development/AppGallery-connect-Guides/agc-get-started).

* [API Documentation](https://developer.huawei.com/consumer/cn/doc/development/AppGallery-connect-References/agconnectconfig)

# 5 Comparison

Comparison between Umeng+, Alibaba Cloud, and HUAWEI.

## 5.1 Overview

|  |  |  |  |
| --- | --- | --- | --- |
| **Service** | **Umeng+** | **Alibaba Cloud** | **HUAWEI** |
| Push notifications | V  \*U-Push SDK | V  \*EMAS SDK | V  \*Push Kit SDK |
| In-app Messaging | V  \*U-Push SDK | V  \*EMAS SDK | -  \*AGC SDK  \*beta version |
| Remote Configuration | X | -  \*Private Cloud subscription | V  \*AGC SDK |

## 5.2 Pros and cons

# 6 Links and account info.

## 6.1 Umeng+ account

* Console: <https://workbench.umeng.com/home>
* Account Info: <https://confluence.nexstreaming.com/display/AD1/Umeng+Account>

## 6.2 Alibaba Cloud account

* Console: <https://emas.console.aliyun.com/>
* Account Info: <https://confluence.nexstreaming.com/display/AD1/Alibaba+Cloud+account>

## 6.3 HUAWEI account

* Console: <https://developer.huawei.com/consumer/cn/service/josp/agc/index.html>

Please ask Jingxia Lin <[jingxia.lin@kinemaster.com](mailto:jingxia.lin@kinemaster.com)> for the account information.

# 7 References

* [Android消息推送：第三方消息推送平台详细解析](https://cloud.tencent.com/developer/article/1394222)
* [Android 推送平台调研报告](https://toutiao.io/posts/iteb00/preview)
* [友盟推送和阿里云移动推送使用注意事项、不同点比较](https://blog.csdn.net/weitao_666/article/details/97125938)
* [Android端外推送到底有多烦？](http://zhangtielei.com/posts/blog-android-push.html)
* [阿里云消息推送服务](https://yq.aliyun.com/articles/691862)
* [Github: 阿里云移动推送Demo APP Android版](https://github.com/aliyun/alicloud-android-demo/tree/master/mpush_android_demo)
* [Alibaba Cloud Global](https://www.alibabacloud.com)
* [Alibaba MNS Global Pricing](https://www.alibabacloud.com/help/zh/doc-detail/71896.htm?spm=a2c63.l28256.a3.12.780d64bbqyNevT)