

# Comparative analysis and use of different Celltick Version

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**Abstract-** In this paper, difference between the Celltick Versions - 3.1.14.3.1, 3.1.14.2.6 and 3.1.15.1 are being explained. Only Functional Differences are covered in this paper. Through this paper, differences between the different version of Celltick is being tried to showcase such that the decision while selecting the correct version would be more helpful using this paper.

**Index Terms-** CI, LAC, SMSDD, CNTI, IMEI, HSID, CBDD, OTA, SMS, CAR, LANG, LOC, TIME, HS

## 1 Introduction

Celltick is a private firm that provide the guidelines for making the interactive User MMI(Man to Machine Interface). Using the provided guidelines, many SIM vendor company generate the dynamic interaction with the user. A user can activate the Celltick application using the two mechanisms:

1. Using Celltick Activate Menu which is provide in SIM toolkit Application.
2. Using OTA server - via sending the activation packet

Using the Celltick application, many SIM vendor can populate the mass information into the millions of user's handset. This application can also be utilize to broadcast the some natural causes information like Earthquake Information, Flood Information etc. Celltick has been provide the different features in different Celltick versions. So, it is very important for the SIM vendor to decide which celltick version should be used.

## 2 Functional Differences

The following functionalities are added into the Celltick version 3.1.14.3.1 in contrast with Celltick version 3.1.14.2.6:

In Celltick 3.1.14.3.1 version, "CI and LAC" will be appended for all the outgoing SMSDD from client to the server. Thus, making the outgoing SMSDD a "Multiple Command" SMSDD.

In Celltick 3.1.14.3.1 version, a counter functionality has been implemented by Celltick to count the IMEI requests sent to the server. This is maintained by a tag "CNTI" appended to the outgoing IMEI requests and value of this counter can be maximum 255.

In Celltick 3.1.14.3.1, IMEI request reply mechanism has been added. Previously, if the IMEI request reply fails due to any proactive command being executed currently, the IMEI request reply is not sent to the server. In this version, if the IMEI request reply fails, Celltick will try to send the IMEI request reply after some duration or before the next carousal wake up.

In Celltick 3.1.14.3.1, "HSID" tag will also be added for all the outgoing IMEI requests along with "IMEI" tag.

In Celltick 3.1.14.3.1, Automatic activation does not depend on arrival of CBDD which means if the automatic activation counter has been expired and IMEI has been changed, the IMEI request will be sent to the server. Unlike the previous version, in which a CBDD was also necessary for the automatic activation.

The following functionalities are added into the Celltick version 3.1.15.1 in contrast with Celltick version 3.1.14.3.1:

In Celltick version 3.1.15.1 includes several new capabilities that influence the way user experience the service. Following are the specific new capabilities:

- Sticky Messages
- Immediate display                      Single
- Display
- End of call display
- Display modes combinations

In this version, the application has up to seven optional menus (which are Admin Menus) on the application main menu, which can be updated by OTA (Celltick server).

As of this version, there is an option to display a set of messages when the application is not under broadcast reception. This set of messages is called **static messages** and they can be updated over the air via SMS.

A functionality named “Remote Control of Display Frequency” has been added. In this functionality, the Celltick server can send now a dedicate command via Cell Broadcast to a segmented group of users by using the Server Identification mechanism.

In order to support new media formats with good user experience, the application is now able to display up to 5 consecutive free text screens, package their content in SMS and send it to the server. The free text label can be changed, so for example the first label can be “User Name” and the second will be “Password”.

In addition to the LAC and CI data sent to the server on a free space basis with every outgoing SMS, as of this version the MCC and MNC are included in order to improve identification of location in case of multiple networks.

When the user clicks on a context menu that is marked to receive a click confirmation, the application displays the confirmation text on the screen and asks for the user’s approval. For example: **You clicked <BUY COUPON>. Click OK to continue.** When the user confirms by clicking OK, the action is processed.

Registration retry mechanism has been added in the version. In order to support the India regulation for activating a new SIM in their network (a process that can take up to a few days), we currently support an enhanced registration mechanism of new users entering our service.

In this version, the application is sending the Server with the full IMEI value, meaning 15 digits. However, since the IMEI is used to identify the device model, a new IMEI will be considered as ‘new’ only if the TAC changed, and if the TAC is the same and the change is only in the digits 9 to 16, this will be considered as same IMEI as before.

In this version, when the application sends an IMEI SMS to the server. It adds the information according to the order listed below, until it exceeds the full capacity of a single SMS. The priority of adding information is updated in the following order:

LOC - location information

HSID - IMEI data

CNTI - number of successful sent IMEI SMS

CAR - the max records in EF SMS file and the Live Carousel messages size.

LANG - current HS language

TIME – current HS date/time.

If the application cannot get this info from the HS, this TAG shall not be include in the SMS

### 3 Conclusion

With this functional based differences between the different versions of Celltick are being explained. Thus the people confused between choosing the right version as per their need, for them this paper would surely be helpful in choosing the right version.

### 4 Acknowledgement

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### 5 References

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