Operator Name Display on a Smartphones
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1   Introduction

The Operator Name Display (OND) on a smartphone OS is the ability for it to display on the screen the Name of the network the device is currently connected to, or the appropriate network name abbreviation.

The OND is usually displayed in a location so that the customer can easily identify which network they are connected to. Typically, this has been in the status/notification bar at the top of the display, and or on the Lock Screen. (See fig. 1 for typical examples)
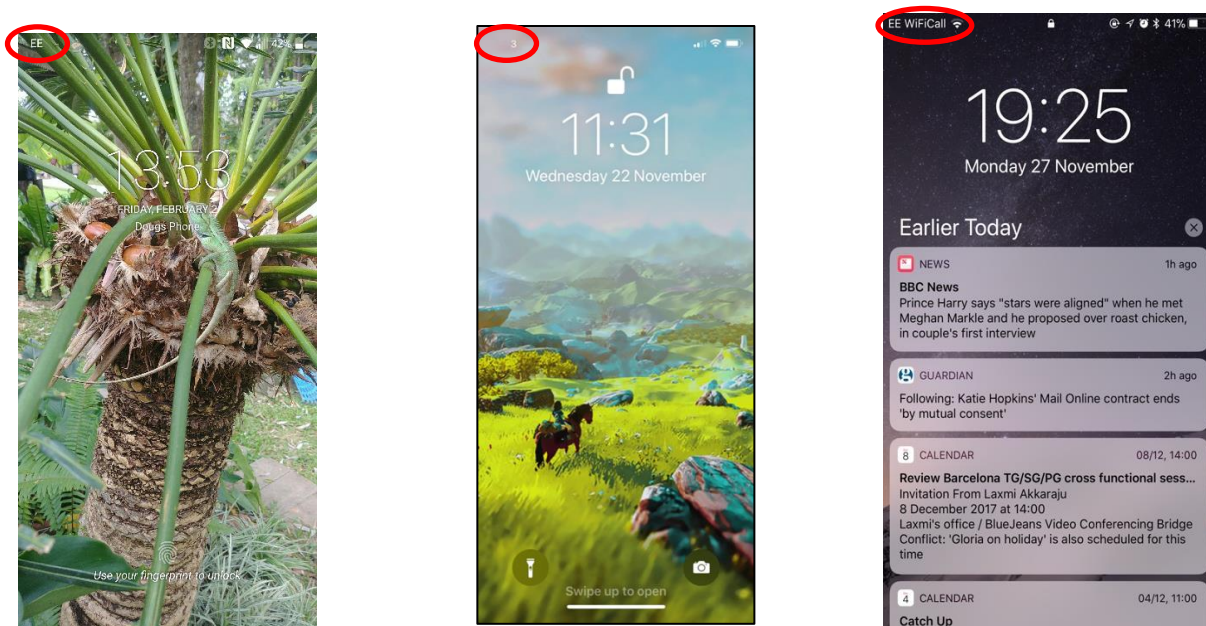
Figure 1 Examples of OND for Android and iOS

It has been noted by the GSMA that in recent Smartphone and OS releases there has been a trend away from persistent display of the Operator Name. Frequently, the Operator Name is not displayed in the Notification bar but instead requires the user to pull down the notification window to find the Operator Name; and on the lock screen, it may be visible sometimes depending on what the lock screen is displaying. The purpose of this document is to define simple requirements to ensure customers have consistent access to the operator name and network connection status.

1.1   Definitions

The key words "SHALL", "SHOULD" and "MAY", within this document are to be interpreted as described in RFC 2119 [1].

Term	Description
Bootup	When a device is turned on and the applications are started and configured
Home screen	The first screen which is displayed to the user when the device is turned on or unlocked
Lock Screen	The screen which is displayed to the user when the device is locked
Low Signal Area	When the network signal strength is very low or non-existent

Term	Description
Roaming	When a user moves from their home network to another network
Notification screen / notification window	This screen used to display information about App and System Notifications, often accessed by dragging down from the Notification Bar.
Operator Name	Typically derived from the Network Broadcast (Nitz), SIM Fields or Abbreviated Mobile Network Name as defined in TS.25
Status/Notification Bar	The Bar at the top of the screen that contains icons notifying the user of Signal Strength, Battery power etc.
Unlock Screen	The screen which is displayed when unlocking a device will typically present the user with a key pad for pin entry, or pattern entry etc.

1.2   Abbreviations

Term	Description
GSMA	GSM Association
OND	Operator Name Display
OS	Operating System
SIM	Subscriber Identity Module; a physical entity that contains keys and ID required to authenticate a user to a mobile network.

"SIM" is commonly used to refer to the physical entity that is technically called the UICC (see below).This document generally uses "SIM" to refer to the physical entity. |
| UICC | Universal Integrated Circuit Card; the physical entity that contains as a minimum the SIM/USIM application |

1.3   References

Ref	Doc Number	Title
[1]	RFC2119	Key words for use in RFCs to Indicate Requirement Levels
[2]	GSMA PRD TS.37	Requirements for Multi SIM Devices
[3]	GSMA PRD TS.25	Mobile Network Codes and Names Guidelines

2   Issue

The GSMA recognises that there is a trend toward maximising the real estate on smartphone screens and that supplementary information may be relegated to supplementary screens such as the notification window. This is especially the case with the trend toward zero bezel devices, and devices with Notches in the Status/Notification Bar

However, the GSMA is also aware that the OND is of significant importance to the customer and particularly in the following scenarios:

1. **Low Signal Area** - it allows the customer to identify that they have dropped any form of connection to their home network, typically the OND will then display 'No Service' or 'Emergency Calls only'.
2. **Roaming** - When roaming it is important for the customer to be able to identify what network they are connected to. If this is not done, the customer could incur significant

charges if they roam off their preferred partner, who provides them with favourable roaming tariffs.

3. **Bootup -** When booting up the device, it is important that the customer can see that they have established a connection to their home network.
4. **Initial Device Configuration** - When initializing a device and SIM for the first time it is important to the customer to see that their SIM is active and connecting to the Operator, they have paid a subscription to.
5. **Dual SIM devices** – It is important for the customer to be clear on which network they are connected to, in relation to which SIM's are currently active. See GSMA TS.37 [2] section 2.5.2 for more details.

In all of the above use cases, the GSMA believes that the customer should have a quick and easy way that allows them to identify the network that they are connected to.

It is important that the customer SHALL NOT be required to go into the device settings menu and have to search for their network connection.

Some OS and Smartphone manufacturers allow certain information to be switched on and off manually by the user on the notification bar, home screen and lock screen (e.g. battery % on notification bar, or app notification on Lock screens). This is a trend that GSMA is comfortable with and giving the customer the option to add and remove the OND from various screens is a positive approach, however, at initial configuration, when the device is turned on, the OND must always be displayed once a network connection has been established.

3   Guideline for OS providers and Smartphone manufacturers and integrators

GSMA has produced the following requirements, which SHALL be followed by OS providers, Smartphone manufacturers and integrators:

TS.44_3.0_REQ_001	The OND SHALL use the "Mobile Network Name" or the "Abbreviated Mobile Network Name" typically derived from the Network Broadcast (Nitz), SIM Fields or Abbreviated Mobile Network Name as defined in TS.25 and is available from the TS.25 Database or the device vendors may agree directly with operators on exceptions (A copy of the TS.25 Database can be obtained by contacting - networkcodesandnames@gsma.com)
TS.44_3.0_REQ_002	The OND SHALL be accessible easily and with minimal need to search, click, touch or swipe the screen
TS.44_3.0_REQ_003	The OND SHALL always be visible on at least two of the following: • Home screen • Lock screen • Unlock screen • Status/Notification Bar • The Notification screen or notification window.
TS.44_3.0_REQ_004	Customers MAY be given the option to manually add and remove the OND from various screens defined in requirement 003. If this option is provided then at initial configuration, when the device is turned on the option to display OND SHALL always be set to on.

TS.44_3.0_REQ_005	For devices with multiple SIMs, the requirements as per TS.37 SHALL be followed:
	TS37_2.5_REQ_9
	In idle mode, network identifier, roaming status, technology, and signal strength SHALL be individually displayed for each active SIM. This requirement applies to OS, application and Web UI.
	TS37_2.5_REQ_10
	Operator information for each active SIM SHALL be displayed on the lock-screen if the device has a lock screen

The specific implementation of the OND is down to the OS provider and the customisation layer provided by the manufacturer or the integrator of a smartphone. This document does not make specific recommendation on position, size, and persistence of the OND.

Annex A   Document Management

A.1   Document History

Version	Date	Brief Description of Change	Approval Authority	Editor / Company
1.0	July 2018	New PRD	TSG & TG#22	Doug Roberts Orange

A.2   Other Information

Type	Description
Document Owner	Terminal Steering Group
Editor / Company	Doug Roberts Orange

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