

Nokia 6090

SW v 5.30 Release information

1. Executive summary

This document describes the main changes of Nokia 6090 software version 5.30. New features included in version 5.30 permit the Nokia 6090 to be connected to a wider range of devices and applications, offering highly flexible performance solutions in addition to the advantages of reduced running costs and better security.

The aim of this document is to help customers, distribution channels, application companies and integrators to understand the changes between this new software version and the previous version – v5.20. All changes which may impact Nokia 6090 users and applications builders are described here.

Commercial launch of the software version 5.30 occurred on 9 May 2001.

2. New Features

Application builders wishing to understand the detailed changes in version 5.30 should refer to the examples shown in the appendix of this document. An overview of the new functionality provided by these changes given below:

AT+CMER is implemented

Mobile equipment indicator reporting via AT commands. It enables an external device connected to the Nokia 6090 to "know" which buttons are pushed by the user and react accordingly. For example, it can help make the Nokia 6090 handset control the external device, making the need for an additional keypad redundant.

AT+CKEV & AT+CIEV unsolicited result codes are implemented.

This command makes it possible for an external device to "know" about events happening to the phone and react accordingly (e.g. incoming call, alerts from network).

AT+CKPD is implemented

(supported values are listed in detail in the Nokia 6090 AT document) Keypad control via AT commands.

This enables, for example, external devices connected to the Nokia 6090 to fully control the Nokia 6090. Examples might be to switch off message alert tones or to change ringing tones remotely. It therefore makes it possible to use an external device such as a PDA or a fleet-management on-board unit as user interface instead of the Nokia 6090 handset as soon as the relevant applications exist.

AT+CIMI is implemented

Request international mobile subscriber identity via AT command. This makes it possible for a connected device to "know" which SIM card (Subscriber Identity Module) is being used. Since a SIM can be matched with a user, the application can, for example, allow/restrict/adapt access depending upon the user. Moreover, using a relevant application, fleet headquarters can easily match vehicles with drivers.

AT+COPS is implemented

Operator selection via AT commands.

It is now possible for an external device to remotely select the network operator to be used whilst roaming. Since phone calls and SMS costs vary greatly depending on the network operator being used, this feature enables international transportation companies for example to save operating costs.

3. Enhanced Features

Detailed explanation about changes is provided in the examples shown in the appendix.

Improvement of AT+CMEC handling.

The right value for CMEC <key> acts as an enabler to execute +CKPD.

Mobile Equipment control mode via AT-command reacts according to GSM 07.07 specifications. Sticking to open standards makes development of applications easier for more developers.

Improvement of AT+CPWD

PIN & PIN2 passwords can now be 8 digits using an external device (old version only 4 digits), providing greater security.

Improvement of +CREG unsolicited result code.

"lac" & "cell id" can be displayed only if the phone is camped on (according to GSM 07.07 specifications). It is possible for an external device to know in which area the Nokia 6090 is located. Depending upon the application, this feature would for example allow a fleet headquarters to determine the region in which the vehicle is located (provided the phone is camped on - phone on and PIN entered).

Improvement of AT+CALA.

Deactivation of alarm is now also possible via AT-command.

It is possible for an application running on an external device to remotely fully control the alarm function of the phone, thus enabling for example the driver be alerted in case of drive or sleep overtime. The alarm function can now automatically be deactivated when the alarm is no longer required (e.g. if the vehicle is being driven, a driver wake-up alarm may be caused by a distraction. It can therefore be deactivated by the application).

Update of AT+CIND.

Indicator control via AT-command reacts fully according to GSM 07.07.

An external device can query the status of the Nokia 6090 remotely and react accordingly. For example, after noticing the Nokia 6090 receiving a call, the external device can query the status of the Nokia 6090 each time before ringing or flashing.

Handling of concatenated SMS.

SMS with user data header & port numbering will be not handled as Narrow Band Socket SMS and ignored, but will be fully taken into consideration by the Nokia 6090. Therefore messages that are longer than 160 characters can be read by the user or the application.

4. Lost Functionality

None

Appendix: Detail deltas between version v.520 and v5.30 shown via examples

SW Version 5.20	SW Version 5.30
ati2 SW5.20 OK at+cmer? +CMER: 2,0,0,0,0 OK at+cmer=? +CMER: (2),(0,2),(0),(0,1),(0) OK /* press any keys, nothing happened */ /* receive SMS, nothing happened */ at+cmer=2,2 OK at+cmer? +CMER: 2,2,0,0,0 OK /* press any keys, nothing happened */ /* receive SMS, nothing happened */ at+cmer=2,2,0,1 OK	ati2 SW5.30 OK at+cmer? +CMER: 2,0,0,0,0 OK at+cmer=? +CMER: (2),(0,2),(0),(0,1),(0) OK /* press any keys, nothing happened */ /* receive SMS, nothing happened */ at+cmer=2,2 OK at+cmer? +CMER: 2,2,0,0,0 OK +CKEV: 50,1 /* key "2" was pressed */ +CKEV: 50,0 /* key "2" was released */ /* receive SMS, nothing happened */ at+cmer=2,2,0,1 OK

SW Version 5.20	SW Version 5.30
<p>at+cmer? +CMER: 2,2,0,1,0</p> <p>OK /* press any keys, nothing happened */</p> <p>/* receive SMS */ +CIND: "message",1,"smsfull",0 +CIND: "message",1,"smsfull",0</p> <p>/* output was not agreed to GSM 07.07 */</p> <p>at+cind=? +CIND: ("message",(0,1)),("call",(0,1)),("roam",(0,1)),("smsfull",(0,1))</p> <p>OK</p> <p>at+cind? +CIND: "call",0,"roam",0,"message",1,"smsfull",0</p> <p>OK /* output was not agreed to GSM 07.07 */</p>	<p>at+cmer? +CMER: 2,2,0,1,0</p> <p>OK +CKEV: 50,1 /* key "2" was pressed */ +CKEV: 50,0 /* key "2" was released */</p> <p>/* receive SMS */ +CIEV: 1,1 /* new output, GSM 07.07 conform */ +CIEV: 3,0 /* first digit -> indicator: */ +CIEV: 1,1 /* 1 – message, 2 - call, 3 – smsfull */ +CIEV: 3,0 /* second digit -> indicator value */ /* 1 – ON, 2 – OFF */</p> <p>at+cind=? +CIND: ("message",(0,1)),("call",(0,1)),("smsfull",(0,1))</p> <p>OK /* Nokia 6090 has no roaming indicator */</p> <p>at+cind? +CIND: 1,0,0</p> <p>OK /* new output, GSM 07.07 conform */ /* at+cind? return indicators value, how are defined by */ /* at+cind=? */ /* 1 – message – ON, 0 – call – OFF, 0 – smsfull – OFF */</p>

SW Version 5.20	SW Version 5.30
+CIND: "call",1 +CIND: "call",0	+CKEV: 77,1 /* new output, GSM 07.07 conform */ +CIEV: 2,1 +CKEV: 77,0 +CIEV: 2,1 +CIEV: 2,1 +CKEV: 77,1 +CIEV: 2,0 +CKEV: 77,0
at+cmec=? +CMEC: (0,2),(0),(0)	at+cmec=? +CMEC: (0,2),(0),(0)
OK at+cmec? +CMEC: 0 OK	OK at+cmec? +CMEC: 0 OK
at+ckpd="u" OK /* +CKPD cmd works always, not agreed with GSM07.07 */	at+ckpd="u" /* +CKPD works only, if +CMEC */ /* parameter is 2 */ ERROR /* GSM 07.07 conform */
at+cmec=2 OK at+ckpd="u" OK	at+cmec=2 OK at+ckpd="u" /* +CKPD works, +CMEC parameter */ OK /* is 2 */

SW Version 5.20	SW Version 5.30
at+ckpd="1234" <i>/* did not work, no response */</i> <i>/* only those parameters were implemented */</i> <i>/* '*', '#', 'd', 'u', 's', 'e', 'v' */</i>	at+ckpd="1234" OK at+ckpd="1234w78" <i>/* 1234 were shown, w is unknown */</i> ERROR <i>/* and the Nokia 6090 response with error */</i> at+ckpd="m915" <i>/* switch the ringing tone off */</i> OK
at+cimi ERROR	at+cimi 262022100065749 OK
at+cops=? ERROR	at+cops=? +COPS: (1,,,"24407"),(2,,,"24702"),,(0,1),(2) OK
at+cops? ERROR	at+cops? +COPS: 1,2,"24702" OK
at+cops=0 ERROR	at+cops=0 OK at+cops=? +COPS: (2,,,"24407"),(1,,,"24702"),,(0,1),(2) OK at+cops=?

SW Version 5.20	SW Version 5.30
at+cops=1,2,"26201" ERROR	+COPS: (2,,,"24407"),(3,,,"26201"),(3,,,"26202"),,(0,1),(2) OK at+cops? +COPS: 0,2,"24407" OK at+cops=1,2,"26201" ERROR at+cops? +COPS: 0 OK at+cops=1,2,"24407" OK at+cops? +COPS: 1,2,"24407" OK at+cops=1,2,"26202" ERROR at+cops? +COPS: 1 OK at+cops? +COPS: 1 OK at+cops=0

SW Version 5.20	SW Version 5.30
<p>at+cpwd=? +CPWD: ("PS",5),("SC",4),("AB",4),("P2",4)</p> <p>OK at+cpwd="SC","0000","12345678" ERROR at+cpwd="SC","0000","1234" OK at+cpwd="SC","1234","0000" OK</p> <p>at+cpwd="PS","12345","54321" OK</p> <p>at+cpwd="P2","5678","12345678" ERROR</p> <p>at+cpwd="P2","5678","1234" OK at+cpwd="P2","1234","5678" OK</p>	<p>OK at+cops? +COPS: 0,2,"24407"</p> <p>OK</p> <p>at+cpwd=? +CPWD: ("PS",5),("SC",8),("AB",4),("P2",8)</p> <p>OK at+cpwd="SC","0000","12345678" OK at+cpwd="SC","12345678","0000" OK</p> <p>at+cpwd="PS","12345","54321" OK</p> <p>at+cpwd="P2","5678","12345678" OK at+cpwd="P2","12345678","5678" OK at+cpwd="P2","5678","1234" OK at+cpwd="P2","1234","5678" OK</p>

SW Version 5.20	SW Version 5.30
<p>/* Nokia 6090 is switched on */</p> <p>at+creg=? +CREG: (0-2)</p> <p>OK</p> <p>at+creg? +CREG: 0,2</p> <p>OK</p> <p>at+creg=2 OK</p> <p>at+creg? +CREG: 2,2,"00D1","0000"</p> <p>OK /* 2 – not registered, values for cell id & lac were not valid */</p> <p>at+cpin="0000" OK</p> <p>+CREG: 2,2,"0100","2000" /* not agreed with GSM 07.07 */</p>	<p>/* Nokia 6090 is switched on */</p> <p>at+creg=? +CREG: (0-2)</p> <p>OK</p> <p>at+creg? +CREG: 0,2</p> <p>OK</p> <p>at+creg=2 OK</p> <p>at+creg? +CREG: 2,2</p> <p>OK /* output without cell id & lac */</p> <p>at+cpin="0000" /* PIN entry */ OK</p> <p>+CREG: 2 /* agreed with GSM 07.07 */</p>

SW Version 5.20	SW Version 5.30
/* values for cell id & lac were not valid */	/* output without cell id & lac */
+CREG: 2,1,"011D","0F5B" /* not agreed with GSM 07.07 */	+CREG: 1,"011D","0F5B" /* agreed with GSM 07.07 */
+CREG: 2,1,"011D","0F5B" /* not agreed with GSM 07.07 */	+CREG: 1,"011D","0F5B" /* agreed with GSM 07.07 */
at+cala="01/01/01,16:14:00+00" OK /* activated alarm; year, seconds & time zone */ /* are ignored, before you execute this the */ /* time must be set in the Nokia 6090 */	at+cala="01/01/01,16:14:00+00" OK /* activated alarm; year, seconds & time zone */ /* are ignored, before you execute this the */ /* time must be set in the Nokia 6090 */
at+cala="01/01/01,16:14:00+00",0,0 ERROR /* deactivated alarm by the UI */	at+cala="01/01/01,16:14:00+00",0,0 OK /* deactivated alarm; data are ignored */
at+cala="01/01/01,16:14:00+00" OK at+cala="01/01/01,16:14:00+00",,0 ERROR	at+cala="01/01/01,16:14:00+00" OK at+cala="01/01/01,16:14:00+00",,0 OK