

3GPP2 X.S0004-690-E

v 2.0

Date: July 2007



3RD GENERATION  
PARTNERSHIP  
PROJECT 2  
"3GPP2"

# Mobile Application Part (MAP) -

## TIMERS

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# REVISION HISTORY

Revision	Date	Remarks
X.S0004-690-E v2.0	July 2007	Incorporated changes from Miscellaneous Rev. E standards.

# PART 690

## OPERATION TIMER VALUES

The following table provides a summary of the timers used for MAP operations. The timer values specified in this table are default values only and should be optimized for actual operating environments. Some timers are locally defined and are not in this table (e.g., alerting timer, no answer timer, page response timer, maximum interaction timer, interdigit timer).

### 1 OPERATION TIMER VALUES

**Table 1 Operation Timer Values**

Timer	Default (sec.)	Started when	Normally stopped when	Action when timer expires
ADT Authentication Directive Timer	6	AuthenticationDirective INVOKE is sent.	AuthenticationDirective RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
ADTF Authentication Directive Forward Timer	15	AuthenticationDirective-Forward INVOKE is sent.	AuthenticationDirective-Forward RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
AFRT Authentication Failure Report Timer	6	AuthenticationFailure-Report INVOKE is sent.	AuthenticationFailure-Report RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
ANZT Analyzed Information Timer	16	AnalyzedInformation INVOKE (or a subsequent RemoteUserInteraction-Directive RETURN RESULT) is sent, or a subsequent Disconnect-Resource INVOKE is received.	AnalyzedInformation RETURN RESULT or RETURN ERROR is received, RemoteUser-InteractionDirective INVOKE is received, or ConnectResource INVOKE is received.	Execute recovery procedures.
ART Authentication Request Timer	6	AuthenticationRequest INVOKE is sent.	AuthenticationRequest RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
ASRRT Authentication Status Report Response Timer	24	An Authentication operation that requires an AuthenticationStatusReport reply is sent.	Authentication Status Report INVOKE is received.	Execute recovery procedures.

**Table 1 Operation Timer Values**

ASRT Authentication Status Report Timer	6	AuthenticationStatus-Report INVOKE is sent.	Authentication Status Report RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
BDT Bulk Deregistration Timer	6	BulkDeregistration INVOKE is sent.	BulkDeregistration RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
BSCT Base Station Challenge Timer	3 (see a)	BaseStationChallenge INVOKE is sent.	BaseStationChallenge RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
CFT Change Facilities Timer	7	ChangeFacilities INVOKE is sent.	ChangeFacilities RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
CRT Count Request Timer	6	Count Request INVOKE is sent.	Count Request RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
CST Change Service Timer	13	ChangeService INVOKE is sent.	ChangeService RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
CTT Clear Trunk Timer	4 to 15	FacilitiesRelease INVOKE is sent.	FacilitiesRelease RETURN RESULT or RETURN ERROR is received.	see Part 640, sec. 18.1
FAVT Facility Selected And Available Timer	16	FacilitySelectedAnd-Available INVOKE is sent.	FacilitySelectedAnd-Available RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
FRRT Feature Request Response Timer	16	FeatureRequest INVOKE (or a subsequent Remote-UserInteractionDirective RETURN RESULT) is sent.	FeatureRequest RETURN RESULT, FeatureRequest RETURN ERROR, or a RemoteUser-InteractionDirective INVOKE is received.	Execute recovery procedures.
FRT Flash Request Timer	3	MSC transmits a FlashRequest INVOKE.	FlashRequest RETURN RESULT or RETURN ERROR is received.	see Part 640, sec. 21.1
HOT Handoff Order Timer	12 (see b)	Serving MSC sends FacilitiesDirective INVOKE or HandoffBack INVOKE to Target MSC.	FacilitiesDirective or HandoffBack RETURN RESULT or RETURN ERROR is received.	see Part 640, sec. 16.1 see Part 640, sec. 17.1
HTTRT Handoff-To-Third Result Timer	7 (see c)	Serving MSC receives Handoff-To-Third RETURN RESULT.	FacilitiesRelease INVOKE is received.	see Part 640, sec. 26.1 see Part 640, sec. 27.1

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**Table 1 Operation Timer Values**

HTTT Handoff-To-Third Timer	18 (see b)	Handoff-To-Third INVOKE is sent.	Handoff-To-Third RETURN RESULT or RETURN ERROR is received.	<a href="#">see Part 640, sec. 26.1</a> <a href="#">see Part 640, sec. 27.1</a>
IDT Information Directive Timer	6	InformationDirective INVOKE is sent.	InformationDirective RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
IFT Information Forward Timer	6	InformationForward INVOKE is sent.	InformationForward RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
IRT Instruction Request Timer	6	InstructionRequest INVOKE (or a subsequent SRFDirective RETURN RESULT) is sent.	InstructionRequest RETURN RESULT or RETURN ERROR is received, or SRFDirective INVOKE is received.	Execute recovery procedures.
ISART Intersystem Answer Response Timer	78	Affirmative InterSystem-Setup RETURN RESULT is received.	InterSystem Answer INVOKE is received.	Execute recovery procedures.
ISAT Intersystem Answer Timer	7	InterSystemAnswer INVOKE is sent.	InterSystemAnswer RETURN RESULT is received.	Execute recovery procedures.
ISMDWT Intersystem Message Delivery Wait Timer	7	InterSystemPage2 RETURN RESULT (for an MS responding with an SMS Service Option) is sent.	InterSystemSMSDelivery-PointToPoint INVOKE is received.	Release MS from the traffic channel and execute recovery procedures.
ISPRT Intersystem Page Request Timer	13	InterSystemPage or InterSystemPage2 INVOKE is sent.	InterSystemPage or InterSystemPage2 RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
ISSMT Intersystem SMS Delivery Timer	24	InterSystemSMSDelivery-PointToPoint INVOKE is sent.	InterSystemSMSDelivery-PointToPoint RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
ISSPT InterSystem SMS Page Timer	24 (see d)	InterSystemSMSPage INVOKE is sent.	InterSystemSMSPage RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
ISSRT Intersystem Setup Timer	15	IntersystemSetup INVOKE is sent.	IntersystemSetup RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.

**Table 1 Operation Timer Values**

ISSWT Intersystem Setup Wait Timer	60	InterSystemPage2 RETURN RESULT (for an MS responding with a voice Service Option) is sent.	IntersystemSetup INVOKE is received.	Execute recovery procedures.
LMMRT Location Measurement Maximum Response Timer	7	Serving MSC requests handoff measurements from the Candidate MSC.	Serving MSC receives handoff measurements from the Candidate MSC.	<a href="#">see Part 640, sec. 23.1</a>
LRT Location Request Timer	16	LocationRequest INVOKE (or a subsequent RemoteUserInteractionDirective RETURN RESULT) is sent, or a subsequent DisconnectResource INVOKE is received, or when a ConnectionFailure-Report INVOKE is sent.	LocationRequest RETURN RESULT, Location Request RETURN ERROR, or a RemoteUserInteractionDirective INVOKE, or a ConnectResource INVOKE is received.	Apply appropriate access denial treatment.
MAHT Mobile Access Hunt Timer	30 (see e)	MAH context is created or extended.	MAH context is closed.	Release MAH context.
MAT Mobile Arrival Timer	7 (see c)	Target MSC replies affirmatively to Serving MSC handoff request.	Target MSC receives MS on the designated voice channel.	<a href="#">see Part 640, sec. 17.3</a> <a href="#">see Part 640, sec. 17.3</a> <a href="#">see Part 640, sec. 22.3</a> <a href="#">see Part 640, sec. 23.3</a>
MDT Message Directive Timer	6	MessageDirective INVOKE is sent.	MessageDirective RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
MHOT Mobile Handoff Order	7 (see c)	Serving MSC receives affirmative reply from Target MSC to handoff request.	Target MSC indicates to serving MSC that MS is on channel.	<a href="#">see Part 640, sec. 16.1</a> <a href="#">see Part 640, sec. 17.1</a> <a href="#">see Part 640, sec. 23.1</a> <a href="#">see Part 640, sec. 26.4</a> <a href="#">see Part 640, sec. 27.4</a>
MSIT MS Inactive Timer	6	MSinactive INVOKE is sent.	MSinactive RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
MT Modify Timer	6	Modify INVOKE is sent.	Modify RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.

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**Table 1 Operation Timer Values**

NPT Number Portability Request Timer	6	NumberPortabilityRequest INVOKE is sent.	NumberPortabilityRequest RETURN RESULT or RETURN ERROR is received.	Use available information to route the call if possible (default routing).
ORT Origination Request Timer	16	OriginationRequest INVOKE (or a subsequent RemoteUser- InteractionDirective RETURN RESULT) is sent, or a DisconnectResource INVOKE is received or a ConnectionFailureReport INVOKE is sent.	OriginationRequest RETURN RESULT, OriginationRequest RETURN ERROR, or a RemoteUser- InteractionDirective INVOKE is received or a ConnectResource INVOKE is received.	Execute recovery procedures.
OTART <sub>CS</sub> OTASPPrequest Timer	30	OTASPPrequest INVOKE is sent with ACTCODE set to Generate A-key, Generate Public Encryption Key Values, or Release Resources.	OTASPPrequest RETURN RESULT is received.	Execute recovery procedures.
OTART <sub>Cl</sub> OTASPPrequest Timer	90	OTASPPrequest INVOKE is sent with ACTCODE set to Perform SSD Update, Perform Re-Authentication, or Commit A-key.	OTASPPrequest RETURN RESULT is received.	Execute recovery procedures.
OTART <sub>t</sub> OTASPPrequest Response Timer	30	OTASPPrequest INVOKE is sent with ACTCODE set to Generate A-key, Generate Public Encryption Key Values, Commit A-key, or Release Resources.	OTASPPrequest RETURN RESULT or an OTASPPre- quest RETURN ERROR is received.	Execute recovery procedures.
OTART <sub>tl</sub> OTASPPrequest Response Timer	90	OTASPPrequest INVOKE is sent with ACTCODE set to Perform SSD Update, or Perform Re-Authentication.	OTASPPrequest RETURN RESULT or an OTASPPre- quest RETURN ERROR is received.	Execute recovery procedures.
PAT PACA Answer Timer	18	PACA is honored.	PACA is answered	<a href="#">see Part 651, sec. 20.2</a>
PDT PACA Detection Timer	60	PACA is invoked.	MS invoking PACA was detected.	Execute recovery procedures.
PFT PACA Feedback Timer	15	PACA is invoked.	PACA is honored or abandoned.	<a href="#">see Part 651, sec. 20.2</a>
PRT Parameter Request Timer	6	ParameterRequest INVOKE is sent.	ParameterRequest RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.

**Table 1 Operation Timer Values**

QDT Qualification Directive Timer	6	QualificationDirective INVOKE is sent.	QualificationDirective RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
QRT Qualification Request Timer	6	QualificationRequest INVOKE is sent.	QualificationRequest RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
RANDRT Random Variable Request Timer	6	RandomVariableRequest INVOKE is sent.	RandomVariableRequest RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
RCT Registration Cancellation Timer	6	RegistrationCancellation INVOKE is sent.	RegistrationCancellation RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
RDRT Redirection Request Timer	22	RedirectionRequest INVOKE is sent.	RedirectionRequest RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
RDT Redirection Directive Timer	6	RedirectionDirective INVOKE is sent.	RedirectionDirective RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
RELT Release Timer	6	Release INVOKE is sent	Release RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
REST Reset Timer	20	ResetTimer INVOKE or ConnectResource INVOKE is sent. (see f)	ConnectionFailureReport INVOKE is received, or DisconnectResource INVOKE is sent, or the RETURN RESULT of the operation that started the transaction is sent.	Send Reset-Timer INVOKE.
RNT Registration Notification Timer	12	RegistrationNotification INVOKE is sent.	RegistrationNotification RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
RRT Routing Request Timer	10	RoutingRequest INVOKE is sent.	RoutingRequest RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
RUDT Remote User Interaction Directive Response Timer	6+ Digit Collction Control Maximum Ineraction Time	RemoteUserInteraction-Directive INVOKE is sent.	RemoteUserInteraction-Directive RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.

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**Table 1 Operation Timer Values**

SADT Short Message Air Delivery Timer	18 (see g)	A short message is sent over the air interface.	Response is received.	Execute recovery procedures.
SADT <sub>OTA</sub> Short Message Air Delivery Timer	200 (see h)	A short message (MS Key Request message or Key Generation Request message) is sent over the air interface.	Response (MS Key Response message or Key Generation Response message) is received.	Execute recovery procedures.
SAOT Short Message Air Origination Timer	24 (see i)	A short message is sent over the air interface.	Response is received.	Execute recovery procedures.
SBT SMS Delivery Backward Timer	18 (see i)	SMSDelivery Backward is sent toward the Anchor MSC.	Response is received.	Execute recovery procedures.
SCFT Service Control Function Timer	REST+5 (see j)	ConnectResource INVOKE is received, or ResetTimer INVOKE is received (see f).	DisconnectResource INVOKE is received, or the RETURN RESULT of the operation that started the transaction is received.	Send RETURN RESULT of the current operation with instructions to disconnect the call or reject the service interaction.
SFT SMS Delivery Forward Timer	24 (see g)	SMSDeliveryForward is sent toward the Serving MSC.	Response is received.	Execute recovery procedures.
SMT <sub>cs</sub> Short Message Delivery Timer	6	SMSDeliveryPoint ToPoint INVOKE is sent to the Serving MSC.	SMSDeliveryPoint ToPoint RETURN RESULT is received.	Execute recovery procedures.
SMT <sub>cm</sub> Short Message Delivery Timer	30	SMSDeliveryPoint ToPoint INVOKE is sent to the Serving MSC.	SMSDeliveryPoint ToPoint RETURN RESULT is received.	Execute recovery procedures.
SMT <sub>cl</sub> Short Message Delivery Timer	300	SMSDeliveryPoint ToPoint INVOKE is sent to the Serving MSC.	SMSDeliveryPoint ToPoint RETURN RESULT is received.	Execute recovery procedures.
SMT <sub>network</sub> Short Message Delivery Timer	6 (see i)	SMSDeliveryPointToPoint is sent to a network destination.	Response is received.	Execute recovery procedures.
SMT <sub>mobile</sub> Short Message Delivery Timer	45	SMSDeliveryPointToPoint is sent to an MS-based SME (even over a network)	Response is received.	Execute recovery procedures.
SNT SMS Notification Timer	6	SMSNotification INVOKE is sent.	Response is received.	Execute recovery procedures.

**Table 1 Operation Timer Values**

SRFDT SRF Directive Timer	Maximum user interaction time	SRFDirective INVOKE is sent.	SRFDirective RETURN RESULT or RETURN ERROR is received.	Return to the calling task with failure indication.
SRT SMS Request Timer	6	SMSRequest INVOKE is sent.	Response is received.	Execute recovery procedures.
SSFT Service Switching Function Timer	SCFT+5 (see j)	ConnectResource INVOKE is received, or ResetTimer INVOKE is received (see f).	ResetTimer INVOKE is received, or Disconnect- Resource INVOKE is received, or RETURN RESULT is received, or a connection failure occurs.	Send Connection- FailureReport INVOKE.
ST Search Timer	6	Search INVOKE is sent.	Search RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
SVRT Service Request Timer	6	ServiceRequest INVOKE is sent.	ServiceRequest RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
SZRT Seize Resource Timer	6	SeizeResource; INVOKE is sent.	SeizeResource; RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
TBT TBusy Timer	16	TBusy INVOKE (or a subse- quent RemoteUser- InteractionDirective RETURN RESULT) is sent, or a subsequent DisconnectResource INVOKE is received.	TBusy RETURN RESULT or RETURN ERROR is received, RemoteUser- InteractionDirective INVOKE is received, or ConnectResource INVOKE is received.	Execute recovery procedures.
TDT TIMSI Directive Timer	24	TIMSIDirective INVOKE is sent.	TIMSIDirective RETURN RESULT or RETURN ERROR is received.	Execute recovery procedures.
THTTT Tandem Handoff-To-Third Timer	15 (see b)	Tandem MSC transits a HandoffToThird INVOKE.	HandoffToThird RETURN RESULT or RETURN ERROR is received.	<a href="#">see Part 640, sec. 26.2</a> <a href="#">see Part 640, sec. 27.2</a>
TLDNAT TLDN Association Timer	20 (for an MSC) 6 (for an SRF network entity)	A TLDN is assigned for call delivery.	A call using TLDN is received	Free TLDN and associated resources.

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**Table 1 Operation Timer Values**

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**Notes:**

- a. The MS starts a 5 second timer when it issues the Base Station Challenge order. If a response is not received within that period, the SSD update task is abandoned by the MS.
- b. HTTT>THTTT>HOT.
- c. MAT>HTTRT>MHOT.
- d. SMT<sub>mobile</sub>>ISSPT>SADT.
- e. MAHT>No Answer Time + FRRT.
- f. upon receipt of a ResetTimer INVOKE, the active operation timer is reset to its default or received operation timer value and is restarted.
- g. for messages to an MS-based SME: SMT<sub>mobile</sub>>SFT>SADT.
- h. for messages to an MS-based SME: SMT<sub>cl</sub>> SADT<sub>OTA</sub> > A-Key Generation by the MS (up to 150 sec). The following applies for A-Key Generation, which may take up to 150 sec, as per IS-683-A. The default for SADT<sub>OTA</sub> is selected such that it accounts for the 150 sec AKey Generation at the mobile.
- i. for messages to an entity other than an MS-based SME: SAOT>SBT>SMT<sub>network</sub>.
- j. SSFT>SCFT>REST>WINRT.

## 2 OA&M TIMER VALUES FOR HANDOFF CIRCUITS

Table 2 Handoff OA&M Timer Values

Timer	Default (sec.)	Started when	Normally stopped when	Action when timer expires
Blocking Timer BLKT	4 to 15	When MSC sends Blocking INVOKE	When MSC receives Blocking RETURN RESULT or RETURN ERROR	see Part 400
ResetCircuit Timer RSTT	4 to 15	MSC sends ResetCircuit INVOKE	When MSC receives ResetCircuit RETURN RESULT or RETURN ERROR	see Part 400
Unblocking Timer UBLKT	4 to 15	MSC sends Unblocking INVOKE	When MSC receives Unblocking RETURN RESULT or RETURN ERROR	see Part 400

### 3 OA&M TIMER VALUES FOR TRUNK TESTING

**Table 3 Trunk Test Timer Values**

Timer	Default (sec.)	Started when	Normally stopped when	Action when timer expires
TTT Trunk Test Timer	4 to 15	When MSC sends TrunkTest INVOKE	When MSC receives TrunkTest RETURN RESULT or RETURN ERROR	see Part 400
TTDT Trunk Test Disconnect Timer	4 to 15	When MSC sends TrunkTestDis- connect INVOKE	When MSC receives TrunkTestDisconnect RETURN RESULT or RETURN ERROR	see Part 400