

No.	Time	Source
Destination	Protocol Length	Info
1	1992-12-03 18:02:09,446272	1000 1010
GSM SMS 194	invoke forwardSM	

Frame 1: 194 bytes on wire (1552 bits), 194 bytes captured (1552 bits)

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Encapsulation type: Ethernet (1)
Arrival Time: Dec 3, 1992 19:02:09.446272000 CET
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 723405729.446272000 seconds
[Time delta from previous captured frame: 0.000000000 seconds]
[Time delta from previous displayed frame: 0.000000000 seconds]
[Time since reference or first frame: 0.000000000 seconds]
Frame Number: 1
Frame Length: 194 bytes (1552 bits)
Capture Length: 194 bytes (1552 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame:
eth:ethertype:ip:sctp:m3ua:sccp:tcap:gsm_map:gsm_sms]
Ethernet II, Src: DigitalE_02:ae:78 (00:60:6d:02:ae:78), Dst:
00:00:00_00:00:00 (00:00:00:00:00:00)
  Destination: 00:00:00_00:00:00 (00:00:00:00:00:00)
    Address: 00:00:00_00:00:00 (00:00:00:00:00:00)
      .... ..0. .... .... .... = LG bit: Globally unique
address (factory default)
      .... ..0 .... .... .... = IG bit: Individual address
(unicast)
    Source: DigitalE_02:ae:78 (00:60:6d:02:ae:78)
      Address: DigitalE_02:ae:78 (00:60:6d:02:ae:78)
        .... ..0. .... .... .... = LG bit: Globally unique
address (factory default)
        .... ..0 .... .... .... = IG bit: Individual address
(unicast)
    Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 0.0.0.0, Dst: 10.2.174.120
  0100 .... = Version: 4
  .... 0101 = Header Length: 20 bytes (5)
  Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
    0000 00.. = Differentiated Services Codepoint: Default (0)
    .... ..00 = Explicit Congestion Notification: Not ECN-
Capable Transport (0)
  Total Length: 180
  Identification: 0x0000 (0)
  Flags: 0x0000
    0... .... .... = Reserved bit: Not set
    .0.. .... .... = Don't fragment: Not set
    ..0. .... .... = More fragments: Not set
  Fragment offset: 0
  Time to live: 10
  Protocol: SCTP (132)
  Header checksum: 0xf74c [correct]
  [Header checksum status: Good]

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[Calculated Checksum: 0xf74c]
Source: 0.0.0.0
Destination: 10.2.174.120
Stream Control Transmission Protocol, Src Port: 23569 (23569), Dst
Port: 1293 (1293)
Source port: 23569
Destination port: 1293
Verification tag: 0x00000000
[Association index: 65535]
Checksum (CRC32C): 0x40185ef6 [correct]
[Checksum Status: Good]
DATA chunk(unordered, complete segment, TSN: 0, SID: 65530, SSN:
0, PPID: 3, payload length: 132 bytes)
  Chunk type: DATA (0)
    0... .... = Bit: Stop processing of the packet
    .0.. .... = Bit: Do not report
  Chunk flags: 0x07
    .... 0... = I-Bit: Possibly delay SACK
    .... .1.. = U-Bit: Unordered delivery
    .... ..1. = B-Bit: First segment
    .... ...1 = E-Bit: Last segment
  Chunk length: 148
  Transmission sequence number: 0
  Stream identifier: 0xffff
  Stream sequence number: 0
  Payload protocol identifier: M3UA (3)
MTP 3 User Adaptation Layer
Version: Release 1 (1)
Reserved: 0x00
Message class: Transfer messages (1)
Message Type: Payload data (DATA) (1)
Message length: 132
Routing context (1 context)
  Parameter Tag: Routing context (6)
  Parameter length: 8
  Routing context: 1
Protocol data (SS7 message of 99 bytes)
  Parameter Tag: Protocol data (528)
  Parameter length: 115
  OPC: 1000
  DPC: 1010
  SI: SCCP (3)
  NI: National network (2)
  MP: 0
  SLS: 13
  [MTP3 equivalents]
    [OPC: 1000]
    [DPC: 1010]
    [PC: 1000]
    [PC: 1010]
    [NI: 2]
    [SLS: 13]
  Padding: 00
Signalling Connection Control Part
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Message Type: Unitdata (0x09)
.... 0000 = Class: 0x0
1000 .... = Message handling: Return message on error (0x8)
Pointer to first Mandatory Variable parameter: 3
Pointer to second Mandatory Variable parameter: 14
Pointer to third Mandatory Variable parameter: 25
Called Party address (11 bytes)
  Address Indicator
    0... .... = Reserved for national use: 0x0
    .0.. .... = Routing Indicator: Route on GT (0x0)
    ..01 00.. = Global Title Indicator: Translation Type,
Numbering Plan, Encoding Scheme, and Nature of Address Indicator
included (0x4)
    .... ..1. = SubSystem Number Indicator: SSN present
(0x1)
    .... ...0 = Point Code Indicator: Point Code not present
(0x0)
  SubSystem Number: MSC (Mobile Switching Center) (8)
  [Linked to TCAP, TCAP SSN linked to GSM_MAP]
  Global Title 0x4 (9 bytes)
  Translation Type: 0x00
  0001 .... = Numbering Plan: ISDN/telephony (0x1)
  .... 0010 = Encoding Scheme: BCD, even number of digits
(0x2)
  .000 0100 = Nature of Address Indicator: International
number (0x04)
  Called Party Digits: 443850114095
  Called or Calling GT Digits: 443850114095
  Number of Called Party Digits: 12
  Country Code: United Kingdom of Great Britain and
Northern Ireland (44)
  Calling Party address (11 bytes)
  Address Indicator
    0... .... = Reserved for national use: 0x0
    .0.. .... = Routing Indicator: Route on GT (0x0)
    ..01 00.. = Global Title Indicator: Translation Type,
Numbering Plan, Encoding Scheme, and Nature of Address Indicator
included (0x4)
    .... ..1. = SubSystem Number Indicator: SSN present
(0x1)
    .... ...0 = Point Code Indicator: Point Code not present
(0x0)
  SubSystem Number: MSC (Mobile Switching Center) (8)
  [Linked to TCAP, TCAP SSN linked to GSM_MAP]
  Global Title 0x4 (9 bytes)
  Translation Type: 0x00
  0001 .... = Numbering Plan: ISDN/telephony (0x1)
  .... 0010 = Encoding Scheme: BCD, even number of digits
(0x2)
  .000 0100 = Nature of Address Indicator: International
number (0x04)
  Calling Party Digits: 443850160050
  Called or Calling GT Digits: 443850160050
  Number of Calling Party Digits: 12

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Country Code: United Kingdom of Great Britain and Northern Ireland (44)

Transaction Capabilities Application Part

begin

[Transaction Id: 6b000000]

Source Transaction ID

otid: 6b000000

components: 1 item

Component: invoke (1)

invoke

invokeID: 0

opCode: localValue (0)

localValue: 46

CONSTRUCTOR

CONSTRUCTOR Tag

Tag: 0x00

Length: 49

Parameter (0x00)

Tag: 0x00

Length: 8

Data: 32

Parameter (0x04)

Tag: 0x04

Length: 7

Data: 91

Parameter (0x04)

Tag: 0x04

Length: 28

Data: 24

GSM Mobile Application

Component: invoke (1)

invoke

invokeID: 0

opCode: localValue (0)

forwardSM (46)

sm-RP-DA: imsi (0)

IMSI: 234159915795345

[Association IMSI: 234159915795345]

Mobile Country Code (MCC): United Kingdom (234)

Mobile Network Code (MNC): Vodafone Uk Ltd (15)

sm-RP-OA: serviceCentreAddressOA (4)

serviceCentreAddressOA: 914483056100f5

1... = Extension: No Extension

.001 = Nature of number: International

Number (0x1)

.... 0001 = Number plan: ISDN/Telephony

Numbering (Rec ITU-T E.164) (0x1)

E.164 number (MSISDN): 44385016005

Country Code: United Kingdom of Great

Britain and Northern Ireland (44)

sm-RP-UI:

240181f10000292130819090000fcdb25c9e070dd1f2f49c...

GSM SMS TPDU (GSM 03.40) SMS-DELIVER

0... = TP-RP: TP Reply Path parameter is not set in this

SMS SUBMIT/DELIVER

.0.. = TP-UDHI: The TP UD field contains only the short message
..1. = TP-SRI: A status report shall be returned to the SME
.... 0... = TP-LP: The message has not been forwarded and is not a spawned message
.... .1.. = TP-MMS: No more messages are waiting for the MS in this SC
.... ..00 = TP-MTI: SMS-DELIVER (0)
TP-Originating-Address - (1)
Length: 1 address digits
1... = Extension: No extension
.000 = Type of number: Unknown (0)
.... 0001 = Numbering plan: ISDN/telephone (E.164/E.163) (1)
TP-OA Digits: 1
TP-PID: 0
00.. = Defines formatting for subsequent bits: 0x0
..0. = Telematic interworking: no telematic interworking, but SME-to-SME protocol
...0 0000 = The SM-AL protocol being used between the SME and the MS: 0
TP-DCS: 0
00.. = Coding Group Bits: General Data Coding indication (0)
Special case, GSM 7 bit default alphabet
TP-Service-Centre-Time-Stamp
Year: 92
Month: 12
Day: 3
Hour: 18
Minutes: 9
Seconds: 9
Timezone: GMT + 0 hours 0 minutes
TP-User-Data-Length: (15) depends on Data-Coding-Scheme
TP-User-Data
SMS text: Merry Christmas

No.	Time	Source
Destination	Protocol Length	Info
2	1992-12-03 18:02:09,878030	1010
GSM MAP 146	returnResultLast	1000

Frame 2: 146 bytes on wire (1168 bits), 146 bytes captured (1168 bits)

Encapsulation type: Ethernet (1)
Arrival Time: Dec 3, 1992 19:02:09.878030000 CET
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 723405729.878030000 seconds
[Time delta from previous captured frame: 0.431758000 seconds]
[Time delta from previous displayed frame: 0.431758000 seconds]
[Time since reference or first frame: 0.431758000 seconds]
Frame Number: 2
Frame Length: 146 bytes (1168 bits)
Capture Length: 146 bytes (1168 bits)

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[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame:
eth:ethertype:ip:sctp:m3ua:sccp:tcap:gsm_map]
Ethernet II, Src: DigitalE_02:ae:78 (00:60:6d:02:ae:78), Dst:
00:00:00_00:00:00 (00:00:00:00:00:00)
  Destination: 00:00:00_00:00:00 (00:00:00:00:00:00)
    Address: 00:00:00_00:00:00 (00:00:00:00:00:00)
      .... ..0. .... = LG bit: Globally unique
address (factory default)
      .... ..0 .... = IG bit: Individual address
(unicast)
    Source: DigitalE_02:ae:78 (00:60:6d:02:ae:78)
      Address: DigitalE_02:ae:78 (00:60:6d:02:ae:78)
        .... ..0. .... = LG bit: Globally unique
address (factory default)
        .... ..0 .... = IG bit: Individual address
(unicast)
    Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 10.2.174.120, Dst: 0.0.0.0
  0100 .... = Version: 4
  .... 0101 = Header Length: 20 bytes (5)
  Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
    0000 00.. = Differentiated Services Codepoint: Default (0)
    .... ..00 = Explicit Congestion Notification: Not ECN-
Capable Transport (0)
  Total Length: 132
  Identification: 0x0000 (0)
  Flags: 0x0000
    0... .... = Reserved bit: Not set
    .0.. .... = Don't fragment: Not set
    ..0. .... = More fragments: Not set
  Fragment offset: 0
  Time to live: 10
  Protocol: SCTP (132)
  Header checksum: 0xf77c [correct]
  [Header checksum status: Good]
  [Calculated Checksum: 0xf77c]
  Source: 10.2.174.120
  Destination: 0.0.0.0
Stream Control Transmission Protocol, Src Port: 1293 (1293), Dst
Port: 23569 (23569)
  Source port: 1293
  Destination port: 23569
  Verification tag: 0x00002dfc
  [Association index: 65535]
  Checksum (CRC32C): 0xe2c61fae [correct]
  [Checksum Status: Good]
  DATA chunk(unordered, complete segment, TSN: 0, SID: 65530, SSN:
0, PPID: 3, payload length: 84 bytes)
    Chunk type: DATA (0)
      0... .... = Bit: Stop processing of the packet
      .0.. .... = Bit: Do not report
    Chunk flags: 0x07
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        .... 0... = I-Bit: Possibly delay SACK
        .... .1.. = U-Bit: Unordered delivery
        .... ..1. = B-Bit: First segment
        .... ...1 = E-Bit: Last segment
    Chunk length: 100
    Transmission sequence number: 0
    Stream identifier: 0xfffa
    Stream sequence number: 0
    Payload protocol identifier: M3UA (3)
MTP 3 User Adaptation Layer
Version: Release 1 (1)
Reserved: 0x00
Message class: Transfer messages (1)
Message Type: Payload data (DATA) (1)
Message length: 84
Network appearance (2)
    Parameter Tag: Network appearance (512)
    Parameter length: 8
    Network appearance: 2
Routing context (1 context)
    Parameter Tag: Routing context (6)
    Parameter length: 8
    Routing context: 1
Protocol data (SS7 message of 36 bytes)
    Parameter Tag: Protocol data (528)
    Parameter length: 52
    OPC: 1010
    DPC: 1000
    SI: SCCP (3)
    NI: National network (2)
    MP: 0
    SLS: 5
    [MTP3 equivalents]
        [OPC: 1010]
        [DPC: 1000]
        [PC: 1010]
        [PC: 1000]
        [NI: 2]
        [SLS: 5]
Correlation identifier (1611639217)
    Parameter Tag: Correlation identifier (19)
    Parameter length: 8
    Correlation Identifier: 1611639217
Signalling Connection Control Part
Message Type: Unitdata (0x09)
    .... 0000 = Class: 0x0
    1000 .... = Message handling: Return message on error (0x8)
    Pointer to first Mandatory Variable parameter: 3
    Pointer to second Mandatory Variable parameter: 5
    Pointer to third Mandatory Variable parameter: 16
    Called Party address (2 bytes)
        Address Indicator
            0... .... = Reserved for national use: 0x0
            .1.. .... = Routing Indicator: Route on SSN (0x1)

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        ..00 00.. = Global Title Indicator: No Global Title
(0x0)
        .... ..1. = SubSystem Number Indicator: SSN present
(0x1)
        .... ...0 = Point Code Indicator: Point Code not present
(0x0)
        SubSystem Number: MSC (Mobile Switching Center) (8)
        [Linked to TCAP, TCAP SSN linked to GSM_MAP]
        Calling Party address (11 bytes)
        Address Indicator
            0... .... = Reserved for national use: 0x0
            .0.. .... = Routing Indicator: Route on GT (0x0)
            ..01 00.. = Global Title Indicator: Translation Type,
Numbering Plan, Encoding Scheme, and Nature of Address Indicator
included (0x4)
(0x1)
            .... ..1. = SubSystem Number Indicator: SSN present
(0x0)
            .... ...0 = Point Code Indicator: Point Code not present
(0x0)
            SubSystem Number: MSC (Mobile Switching Center) (8)
            [Linked to TCAP, TCAP SSN linked to GSM_MAP]
            Global Title 0x4 (9 bytes)
            Translation Type: 0x00
            0001 .... = Numbering Plan: ISDN/telephony (0x1)
            .... 0010 = Encoding Scheme: BCD, even number of digits
(0x2)
            .000 0100 = Nature of Address Indicator: International
number (0x04)
            Calling Party Digits: 443850114095
            Called or Calling GT Digits: 443850114095
            Number of Calling Party Digits: 12
            Country Code: United Kingdom of Great Britain and
Northern Ireland (44)
Transaction Capabilities Application Part
        end
        [Transaction Id: 6b000000]
        Destination Transaction ID
            dtid: 6b000000
        components: 1 item
            Component: returnResultLast (2)
                returnResultLast
                    invokeID: 0
GSM Mobile Application
        Component: returnResultLast (2)
            returnResultLast
                invokeID: 0

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