IN THE HIGH COURT OF JUSTICE   HP-2015-000037
CHANCERY DIVISION
PATENTS COURT

BETWEEN:

SONY MOBILE COMMUNICATIONS INTERNATIONAL AB
(a company incorporated under the laws of Sweden)

Claimant

- and -

SSH COMMUNICATIONS SECURITY CORPORATION
(a company incorporated under the laws of Finland)

Defendant

AND BETWEEN:

SSH COMMUNICATIONS SECURITY CORPORATION
(a company incorporated under the laws of Finland)

Part 20 Claimant

- and -

(1) SONY MOBILE COMMUNICATIONS AB
(a company incorporated under the laws of Sweden)

(2) SONY COMPUTER ENTERTAINMENT EUROPE LTD

(3) SONY EUROPE LTD

(4) SONY NETWORK ENTERTAINMENT EUROPE LTD

Part 20 Defendants

STATEMENT OF GROUNDS FOR AMENDMENT
OF EP(UK) 2 254 311
ANNEX B: AUXILIARY REQUEST 1

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1   A method of maintaining communication of <u>User Datagram Protocol</u> datagrams in a communication system where <u>port network</u> address translation is provided by a <u>port</u> network address translator (305) for communication of <u>User Datagram Protocol</u> datagrams between a first device and a second device, **characterised by** maintaining a determined <u>p_</u> network address translation for communication of <u>User Datag _</u> Protocol datagrams between the first device and the second device <u>through the port network address translator</u> by sending (306) from the first device or to the second device at least one keepalive packet <u>comprising a User Datagram Protoco. datagra</u> before a time out of the determined <u>p_</u> network address translation.

2   A method of providing <u>port network</u> address translations by a <u>p_</u> network address translator (305) comprising determining an <u>port network</u> address translation for communication of <u>User Datagram Protocol</u> datagrams in between a first device and a second device, **characterised by** receiving at least one keepalive packet <u>comprising a User Datagram Protocol datag _</u> from the first device and/or the second device before time out of the determined <u>port network</u> address translation for the communication of <u>User Datagram Protocol</u> datagrams; and in response to receiving the at least one keepalive packet, maintaining the determined <u>p_</u> network address translation for the communication of <u>User Datagram Protocol</u> datagrams between the first device and the second device.

3   A method according to claim 1 or 2, wherein the at least one keepalive packet comprises a header that equals the headers of the <u>User Datagram Protocol</u> datagrams.

4   A method according to any preceding claim, wherein the at least one keepalive packet contains an indicator that identifies it as a keepalive packet.

5   A method according to any preceding claim, wherein a packet is interpreted as a keepalive packet if it does not contain any meaningful payload.

6   A method according to claim 1 or any claim dependent on claim 1, comprising determining a shortest period for the time out, and based on the determination, sending the at least one keepalive packet frequently enough to maintain the determined address translation in the network address translator (305).

7   A method according to claim 1 or any claim dependent on claim 1, comprising taking the possibility of packet loss into account in determining the frequency of sending the at least one keepalive packet.

8   A device (500) for communication of <u>User Datagram Protocol</u> datagrams in a communication system where <u>port network</u> address translation is provided by a <u>p_</u> network address translator (305) for communication of <u>User Datagram Protocol</u> datagrams between the device and a second device, **characterised by** means (504 or 505) for maintaining a determined <u>p_</u> network address translation for the communication of User Data_ram Protocol datagrams between the device and a second device <u>through</u>

	the port network address translator by causing sending of at least one keepalive packet comprising a User Datagram Protocol datagram to the second device through the network address translator before a time out of the determined port network address translation.
9	A device for port network address translations (305) comprising means for determining an port network address translation for communication of User Datagram Protocol datagrams between a first device and a second device; **characterised by** means for maintaining the determined port network address translation for the communication of User Datagram Protocol datagrams between the first device and the second device in response to reception of at least one keepalive packet comprising a User Datag a Protocol dataq a from the first device and/or the second device before time out of the determined port network address translation for the communication of User Datagram Protocol datagrams.
10	A device according to claim 8 or 9, wherein the at least one keepalive packet comprises a header that equals with the headers of the User Datagram Protocol datagrams.
11	A device according to any of claims 8 to 10, wherein the at least one keepalive packet contains an indicator that identifies it as a keepalive packet.
12	A device according to any of claims 8 to 11, wherein the device is configured to interpret a packet as a keepalive packet if the packet does not contain any meaningful payload.
13	A device (500) according to claim 8 or any claim dependent on claim 8, wherein the means for maintaining is configured to cause sending of the at least one keepalive packet frequently enough to maintain the determined address translation.
14	A device (500) according to claim 8 or any claim dependent on claim 8, wherein the means for maintaining is configured to take into account the possibility of packet loss in determining the frequency of sending
15	A computer program comprising program code means adapted to perform any of steps of any of claims 1 to 7 when the program is run on a processor.

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STATEMENT OF GROUNDS FOR AMENDMENT
OF EP(UK) 2 254 311
ANNEX C: AUXILIARY REQUEST 2

1	A method of maintaining communication of User Datagram Protocol datagrams in a communication system where port network address translation is provided by a p_ network address translator (305) for communication of User Datagram Protocol datagrams between a first device and a second device **characterised** by maintaining a determined po_ network address translation for communication of User Datagram Protocol datagrams between the first device and the second device through the port network address translator by sending (306) from the first device or to the second device at least one keepalive packet comprising a User Datagram Protocol datag_am before a time out of the determined p_ network address translation.
2	A method of providing port network address translations by a p_ network address translator (305) comprising determining an port network address translation for communication of User Datagram Protocol datagrams in between a first device and a second device, characterised by receiving at least one keepalive packet comprising a User Datagram Protocol datagram from the first device and/or the second device before time out of the determined port network address translation for the communication of User Datagram Protocol datagrams; and in response to receiving the at least one keepalive packet, maintaining the determined port network address translation for the communication of User Datagram Protocol datagrams between the first device and the second device
3	A method according to claim 1 or 2, wherein the at least one keepalive packet does not contain any meaningful information other than comprises a header that equals with the headers of the User Datagram Protocol datagrams communicated between the first device and the second device through the network address translator to ensure that the at least one keepalive packet is handled by the network address translator exactly in the same way as the said datag_a_.
4	A method according to any preceding claim, wherein the at least one keepalive packet contains an indicator that identifies it as a keepalive packet.
5	A method according to any preceding claim, wherein a packet is interpreted as a keepalive packet if it does not contain any meaningful payload.
6	A method according to claim 1 or any claim dependent on claim 1 comprising determining a shortest period for the time out, and based on the determination, sending the at least one keepalive packet frequently enough to maintain the determined address translation in the network address translator (305)
7	A method according to claim 1 or any claim dependent on claim 1 comprising taking the possibility of packet loss into account in determining the frequency of sending the at least one keepalive packet.
8	A device (500) for communication of User Datagram Protocol datagrams in a communication system where port network address translation is provided by a port

network address translator (305) for communication of User Datagram Protocol datagrams between the device and a second device. **characterised by** means (504 or 505) for maintaining a determined port network address translation for the communication of User Datagram Protocol datagrams between the device and the second device through the port network address translator by causing sending of at least one keepalive packet comprising a User Datagram Protocol datagram to the second device through the port network address translator before a time out of the determined port network address translation.

9   A device for port network address translations (305) comprising means for determining an port network address translation for communication of User Datagram Protocol datagrams between a first device and a second device **characterised by** means for maintaining the determined port network address translation for the communication of User Datagram Protocol datagrams between the first device and the second device in response to reception of at least one keepalive packet comprising a User Datagram Protocol datagram from the first device and/or the second device before time out of the determined port network address translation for the communication of User Datagram Protocol datagrams

10   A device according to claim 8 or 9, wherein the at least one keepalive packet does not contain any meaningful information other than comprises a header that equals with the headers of the datagrams communicated between the first device and the second device through the network address translator to ensure that the at least one keepalive packet is handled by the network address translator exactly in the same way as said datagrams.

11   A device according to any of claims 8 to 10, wherein the at least one keepalive packet contains an indicator that identifies it as a keepalive packet.

12   A device according to any of claims 8 to 11, wherein the device is configured to interpret a packet as a keepalive packet if the packet does not contain any meaningful payload.

13   A device (500) according to claim 8 or any claim dependent on claim 8, wherein the means for maintaining is configured to cause sending of the at least one keepalive packet frequently enough to maintain the determined address translation.

14   A device (500) according to claim 8 or any claim dependent on claim 8, wherein the means for maintaining is configured to take into account the possibility of packet loss in determining the frequency of sending

15   A computer program comprising program code means adapted to perform any of steps of any of claims 1 to 7 when the program is run on a processor.

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STATEMENT OF GROUNDS FOR AMENDMENT
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ANNEX D: AUXILIARY REQUEST 3

A method of maintaining communication of <u>User Datagram Protocol</u> datagrams in a communication system where <u>port network</u> address translation is provided by a <u>port</u> network address translator (305) for communication of <u>User Datagram Protocol</u> datagrams between a first device and a second device **characterised by** maintaining a determined <u>port</u> network address translation for communication of <u>User Datag a Protocol</u> datagrams between the first device and the second device <u>through the port network address translator</u> by sending (306) from the first device ~~or~~ <u>to</u> the second device at least one keepalive packet <u>comprising a User Datagram Protocol datag</u> before a time out of the determined <u>p</u> network address translation.

2. A method of providing <u>port network</u> address translations by a <u>p</u> network address translator (305) comprising determining an <u>port network</u> address translation for communication of <u>User Datagram Protocol</u> datagrams in between a first device and a second device characterised by receiving at least one keepalive packet <u>comprising a User Datagram Protocol datagram</u> from the first device and/or the second device before time out of the determined <u>port network</u> address translation for the communication of <u>User Datagram Protocol</u> datagrams, and in response to receiving the at least one keepalive packet maintaining the determined <u>port</u> network address translation for the communication of <u>User Datagram Protocol</u> datagrams between the first device and the second device

3. A method according to claim 1 or 2, wherein the at least one keepalive packet <u>does not contain any meaningful information other than</u> ~~comprises~~ a header that equals with the headers of the <u>User Datagram Protocol</u> datagrams <u>communicated between the first device and the second device through the network address translator to ensure that the at least one keepalive packet is handled by the network address translator exactly in the same way as said datag</u>.

4. A method according to any preceding claim wherein the at least one keepalive packet contains an indicator that identifies it as a keepalive packet.

5. A method according to any preceding claim wherein a packet is interpreted as a keepalive packet if it does not contain any meaningful payload.

6. A method according to claim 1 or any claim dependent on claim 1 comprising determining a shortest period for the time out, and based on the determination, sending the at least one keepalive packet frequently enough to maintain the determined address translation in the network address translator (305) <u>such that multiple keepalive packets are sent through the network address translator within a 30 second period.</u>

7. A method according to claim 1 or any claim dependent on claim 1 comprising taking the possibility of packet loss into account in determining the frequency of sending the at least one keepalive packet <u>such that multiple keepalive packets are sent through the network address translator within a 30 second period.</u>

8	A device (500) for communication of User Datagram Protocol datagrams in a communication system where port network address translation is provided by a port network address translator (305) for communication of User Datagram Protocol datagrams between the device and a second device, **characterised by** means (504 or 505) for maintaining a determined p.. network address translation for the communication of User Datagram Protocol datagrams between the device and the second device through the port network address translator by causing sending of at least one keepalive packet comprising a User Datagram Protocol datagram to the second device through the network address translator before a time out of the determined ... network address translation
9	A device for p... network address translations (305) comprising means for determining an port network address translation for communication of User Datagram Protocol datagrams between a first device and a second device; **characterised by** means for maintaining the determined p... network address translation for the communication of User Datagram Protocol datagrams between the first device and the second device in response to reception of at least one keepalive packet comprising a User Datag... Protocol datagram from the first device and/or the second device before time out of the determined port network address translation for the communication of User Datagram Protocol datagrams
10	A device according to claim 8 or 9, wherein the at least one keepalive packet does not contain any meaningful information other than comprises a header that equals with the headers of the datagrams communicated between the first device and the second device through the network address translator to ensure that the at least one keepalive packet is handled by the network address translator exactly in the same way as said datagrams.
11	A device according to any of claims 8 to 10, wherein the at least one keepalive packet contains an indicator that identifies it as a keepalive packet.
12	A device according to any of claims 8 to 11, wherein the device is configured to interpret a packet as a keepalive packet if the packet does not contain any meaningful payload.
13	A device (500) according to claim 8 or any claim dependent on claim 8, wherein the means for maintaining is configured to cause sending of the at least one keepalive packet frequently enough to maintain the determined address translation such that multiple keepalive packets are sent through the network address translator within a 30 second period.
14	A device (500) according to claim 8 or any claim dependent on claim 8, wherein the means for maintaining is configured to take into account the possibility of packet loss in determining the frequency of sending such that multiple keepalive packets are sent through the network address translator within a 30 second period.
15	A computer program comprising program code means adapted to perform any of steps of any of claims 1 to 7 when the program is run on a processor.

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