PCP and Nested NATs

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Problem

• 500M+ fixed broadband Users
• Not counting hotspots, hotels, etc
• Most behind PCP-unaware NAT CPEs
• If new PCP-aware NAT installed how applications can work through ‘legacy’ CPE?
• How to lower adoption bar for PCP?
Some Scenarios
Proposed Solutions

• Relax IP address check on PCP Server
• Create new PCP Option
• Do nothing...Wait until CPEs replaced.
Relax IP Address Check

PCP Client

Map request
Outer sIP:192.68.0.2
Outer sPort:19268
PCP-C Addr:192.168.0.1
PCP-C port:19268
iPort:40000
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PCP-U NAT

PCP client IP != Outer IP
Allocate public IP and port
Mapping:
(10.0.0.2, 40000) <- (20.0.0.1, 20001)

PCP Server

Map request
Outer sIP:10.0.0.2
Outer sPort:10002
PCP-C Addr:192.168.0.1
PCP-C port:19268
iPort:40000
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Map response
Outer dIP:192.168.0.2
Outer dport:19268
Assigned E-port:20001
Assigned E-IP:20.0.0.1
PCP-C Addr:10.0.0.2
PCP-C port:10002
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RECEIVED_SOURCE_PORT Option

- This option is used by a PCP Server to indicate in a PCP response the source port of PCP messages received from a PCP Client. Together with the IP Address of the PCP Client conveyed in the common PCP header, a PCP Client uses this information to detect whether a NAT is present in the path to reach its PCP Server.
Thank you

• Wireless (Cellular)...