Improved initiation protocol for creating, modifying and terminating media session on the internet

Media content on the internet is created, modified and terminated using a session initiation protocol (SIP). When many users are trying to connect to a server, the current implementation of SIP suffers from overload problems, i.e. lack of processing power to serve already connected users. This is due to the fact that rejecting a session requires the same processing power as serving a session. Most existing SIP overload control is based on an unreliable protocol (user datagram protocol, UDP) that lacks any type of flow control. This technology proposes the use of transmission control protocol (TCP) as a session initiation protocol.

Session initiation protocol over TCP provides reliable delivery of streams of data

The transmission control protocol already possesses flow control and provides reliable, ordered delivery of a stream of data packets between computers. By using already existing TCP functions, it is possible to control overload without modifying SIP or TCP. This advantage allows servers to control overload without any protocol level modification.

The increased efficiency of the technology has been tested simulating SIP traffic on an open source SIP server.

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Applications:

- SIP-over-TCP applications such as voice, video on demand, and instant messaging
- Other situations where the TCP protocol’s flow control is used to prevent overload when many users are simultaneously trying to access data on a server
Advantages:

- Implementation of the technology does not require modification to SIP or TCP protocols
- No need to install or modify software
- Improved and reliable flow control

Patent information:

Patent Pending (US20120008495)

Tech Ventures Reference: IR M10-050

Related Publications:


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