

Claims

1. A method for optimising session set-up between session control nodes (21A, 21B, 21C, 21D), which nodes interface to different operator networks in a globally scalable VoIP network (20), said method comprising at a centralised server system:

receiving a load status message indicating a load status from each session control node and storing the load status for each session control node, said load status messages comprising a required overload restriction for a session control node;

receiving a session set-up request from one of said session control nodes where the session set-up request identifies the requesting session control node and a destination entity (16);

the method being characterized in:

receiving a prioritised list of session set-up policies each identifying a destination session control node the requesting session control node should use in order to reach the destination entity;

modifying the prioritised list by, starting with the highest priority session set-up policy, deleting one or more session set-up policies from the list that include a destination session control node that would exceed its overload restriction if the session set-up request is allowed, until a policy is reached that includes a destination session control node that would not exceed its overload restriction if the session set-up request is allowed; and

sending the modified list of session setup policies to the requesting session control node.

2. A method according to claim 1 further comprising receiving in said load status message a request for a defined restriction on new session setups per second.

3. A method according to claim 2 wherein if by setting up a session from a source node to a destination node the setup rate requested by said destination node would be exceed, excluding from the response any session setup policies which direct the source node to said destination session control node.

4. A method according to claim 1 further comprising receiving in said load status message a request for a proportional discard of all new session set-ups.

5. A method according to any preceding claim further comprising said session control nodes sending the load status message upon approaching an overload threshold.

6. A method according to any preceding claim wherein said load status message received from each session control node comprises the overload status of the node and the overload status of any associated trunk connections to other networks.

7. A method according to any preceding claim further comprising reinstating a session control node and/or a connection as selectable options in a session setup policy decision upon said session control node indicating no overload in a new load status message.

8. A method according to any of the preceding claims further comprising storing an overload status table in the server system indicating an overload status and an overload restriction criteria for each session control edge node and the overload status and an overload restriction criteria for their associated trunk connections to other networks.

9. A server system (18) for controlling session setup between session control nodes (21A, 21B, 21C, 21D), which nodes interface to different operator networks in a globally scalable VoIP network, said server system (18) configured in operation to:

receive from each session control node a load status message indicating a load status, and to store the load status for each session control node, said load status messages comprising a required overload restriction for a session control node;

receive a session set-up request from one of said session control nodes where the session set-up request identifies the requesting session control node and a destination entity;

the system characterized in being further configured to:

receive a prioritised list of session set-up policies each identifying a destination session control node that a requesting session control node should use in order to reach a destination entity;

modify the prioritised list by, starting with the highest priority session set-up policy, deleting one or more session set-up policies from the list that include a destination session control node that would exceed its overload restriction if the session set-up request is allowed, until a policy is reached that includes a destination session control node that would not exceed its overload restriction if the session set-up request is allowed; and

send the modified list of session setup policies to the requesting session control node.

10. A server system according to claim 9 in which the server system is arranged in operation to store an overload status table indicating an overload status and an overload restriction criteria for each session control edge node and the overload status and an overload restriction criteria for their associated trunk connections to other networks.

11. A server system according to claims 9 to 10 in which the functionality of the server system is distributed in one or more session set-up policy servers and overload status servers communicating with each other via one or more management interfaces.

12. A server system according to claim 11 in which the overload status server is configured as a proxy server for the session set-up policy server.
13. A server system according to any of claims 9 to 12 in which the session control nodes are Session Border Controllers, Call Servers, Softswitches, Application Gateways , Media Gateways controllers or Call State Control Functions in an IMS network.
14. A computer program or suite of computer programs executable by a processor to cause the processor to perform the method of any one of claims 1 to 8.
15. A non-transitory computer readable storage medium storing a computer program or a suite of computer programs according to claim 14.