Session Capacity Estimate (SCE)
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SIP Overload Control WG

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Session Capacity Estimate (SCE)

- SCE is a measure of how much capacity exists on a SIP entity
  - Capacity means number of additional communication sessions the device can accept
- It is comparable to a gateway reporting how many DS0s it has available
  - But more suitable for other devices that do not necessarily have a single limiting resource
- It summarily represents the available capacity of a device at a given point in time
  - Taking into consideration available memory, CPU utilization, media processing capacity, licenses, etc.
- Can work in combination with rate control mechanisms
  - Overloading the ability to handle communication sessions is different than overloading the ability to handle messages

Example SCE Calculation

- Let's assume that a SIP device measures capacity for memory, CPU, media processing, licenses, etc.
- For each resource, the device will calculate remaining capacity in terms of how many sessions the device might be able to handle given resources consumed by existing sessions (implementation specific)
- The SCE value is the minimum of all of the computed capacity values, since the session capacity is constrained by the component with the least available capacity

Conveyance of the SCE

- The SCE value is conveyed through normal SIP signaling exchanges between devices
  ```
  Via: SIP/2.0/UDP 192.168.1.10:5060;
     branch=z9hG4bK776asdhds;sce=275
  ```

- During periods when no other SIP exchanges take place, OPTIONS "ping" message might be used

- SCE could be transmitted either uni or bidirectionally

Utilizing the SCE

- A peer receiving session capacity information can use the SCE value as a part of its decision-making process in selecting the next-hop or even rejecting new communication sessions, such as when an intermediary device has received an SCE value of '0' from its next-hop peer(s)