

SDPng Requirements

[draft-kutscher-mmusic-sdpng-req-00.txt](#)

Dirk Kutscher

dku@tzi.uni-bremen.de

Jörg Ott

jo@tzi.uni-bremen.de

Carsten Bormann

cabo@tzi.uni-bremen.de

<http://www.dmn.tzi.org/ietf/mmusic/sdp-ng/>

Overview

- Motivation
- (Terminology)
- General requirements
- Session description requirements
- Capability negotiation requirements
- Next steps

Motivation for SDPng

- No negotiation mechanism in SDP (RFC2327)
 - Has not been designed for capability negotiation
- SDP's extension mechanism
 - Session and media attributes: a=
 - Provides free extension mechanism
 - Unknown attributes to be ignored
 - *Which attributes are required for understanding a session description?*
 - Smooth evolution is difficult when many extensions are developed
- Limited expressiveness
 - Syntax, grouping, ...

General Requirements

- **Simplicity**
 - easy to parse and implement
- **Extensibility**
 - extensions mechanisms that allows to accommodate future applications without having to modify base spec.
- **"Firewall friendliness"**
 - session descriptions should be efficiently parsable by network elements

General Requirements

- Security
 - Support for privacy and authentication services of transport and signaling protocols
- Text encoding
 - concise text encoding for portability and simple implementations
- SDP-mapping
 - translate SDPng to SDP
 - maybe not always possible

Session Description Requirements

- Media types
 - Must fit into RFC 1889/1890 model of standard and dynamic payload types
 - Re-use payload formats, format names, RTP-profiles, MIME-mapping
- Media Stream Packetization
 - Support different variants:
 - Redundancy encoding scheme, FEC, stream repair etc.
 - Codec specification independent from packetization scheme
 - Extensible to other or non-standard schemes

Requirements for Describing Transport Parameters

- Transport
 - Support for different transport protocols and network architectures (IP, ATM etc.)
 - Different address formats, parameters
 - Different QoS models and parameters
 - Flexibility
 - More than 1 transport address per component
 - Layered encodings
 - Multi-/unicast address lists
 - More than 1 address per potential configuration set
 - Specialized media engines
 - Constraints like source filters etc.

Session Description Requirements

- Arbitrary other parameters
 - Extension mechanism required
 - Identify extensions
 - Distinguish mandatory and optional extensions
- Asymmetric configurations
 - “Can send format A but want to receive format B”
- Conciseness and structured extensibility requires
 - Grouping of definitions
 - Naming and referencing groups

Elements of Capability Negotiation

- Model for specifying alternatives (*potential configurations*)
- Negotiation model
 - Syntax and semantics
- Obtain session description as negotiation result
 - Augment negotiation result with transport parameters and general session info

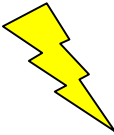
Capability Negotiation Requirements I

- Fit into SIP model (3-way handshake)
- Semantics independent
 - Feature-unaware negotiation is key to extensibility and smooth future evolution
- Grouping capabilities required for
 - Conciseness of exchanged negotiation
 - Referencing, combining capability sets
 - Structured extension mechanism

Capability Negotiation Requirements II

- Constraints
 - Simultaneous capabilities (in a simple way!)
 - “Up to 10 GSM or G.711 streams, but only one codec at a time.”
 - Processing rules
 - Point-to-point and multiparty
 - Different negotiation policies for different session types
- “Implementation issues”
 - Re-use other IETF work, namely RFC 2533

What next?

- More requirements?
 - MEGACO
 - Specific link layers and protocols
- Develop architecture
 - Session description
 - Capability negotiation
- Decide on syntax 

<http://www.dmn.tzi.org/ietf/mmusic/sdp-ng/>

8/2/2000

48. IETF, Pittsburgh
Kutscher/Ott/Bormann