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## **TLS ALPN usage in the Session Initiation Protocol (SIP)**

### **Abstract**

Many SIP specifications use other protocols in addition to the core SIP protocol, like HTTP and MSRP. In order to be able to use multiple protocols on the same port with TLS, a TLS Application Protocol Negotiation Extension (ALPN) protocol ID is needed ([RFC 7301](#) [[RFC7301](#)]). This document registers "sip/2" as the ALPN protocol ID for the SIP protocol version 2.0.

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### 1. Introduction

A modern SIP server not only supports the Session Initiation Protocol v2.0 ([RFC 3261](#) [[RFC3261](#)]), but also needs to support HTTP and possibly other related protocols, like MSRP. To reduce the number of ports used, a SIP server supporting Transport Layer Security (TLS) can support multiple protocols on the same port, provided the clients signal protocol usage with ALPN.

### 2. ALPN registration

Registration following the specification in [RFC 7301](#) [[RFC7301](#)]

\*Protocol: SIP

\*Identification Sequence: 0x73 0x69 0x70 0x2f 0x32 ("sip/2")

\*Reference: RFC 3261

### 3. Acknowledgements

This document was inspired by registration feedback from Rich Salz.

### 4. IANA Considerations

This document registres a new ALPN in the "Application-Layer Protocol Negotiation (ALPN) Protocol IDs" registry under the existing "Transport Layer Security (TLS) Extensions" heading.

### 5. Security Considerations

This document modifies the behaviour of compliant SIP servers when being used by compliant SIP implementations (servers and clients). It does not add any known security issues to the protocol.

For security considerations related to usage of ALPN in TLS, see [RFC 7301](#) [[RFC7301](#)]

### 6. Normative References

**[RFC3261]**

Rosenberg, J., Schulzrinne, H., Camarillo, G., Johnston, A., Peterson, J., Sparks, R., Handley, M., and E. Schooler, "SIP: Session Initiation Protocol", RFC 3261, DOI 10.17487/RFC3261, June 2002, <<https://www.rfc-editor.org/info/rfc3261>>.

**[RFC7301]**

Friedl, S., Popov, A., Langley, A., and E. Stephan, "Transport Layer Security (TLS) Application-Layer Protocol Negotiation Extension", RFC 7301, DOI 10.17487/RFC7301, July 2014, <<https://www.rfc-editor.org/info/rfc7301>>.

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