RIST

RELIABLE INTERNET STREAM TRANSPORT

What will the Future Bring?

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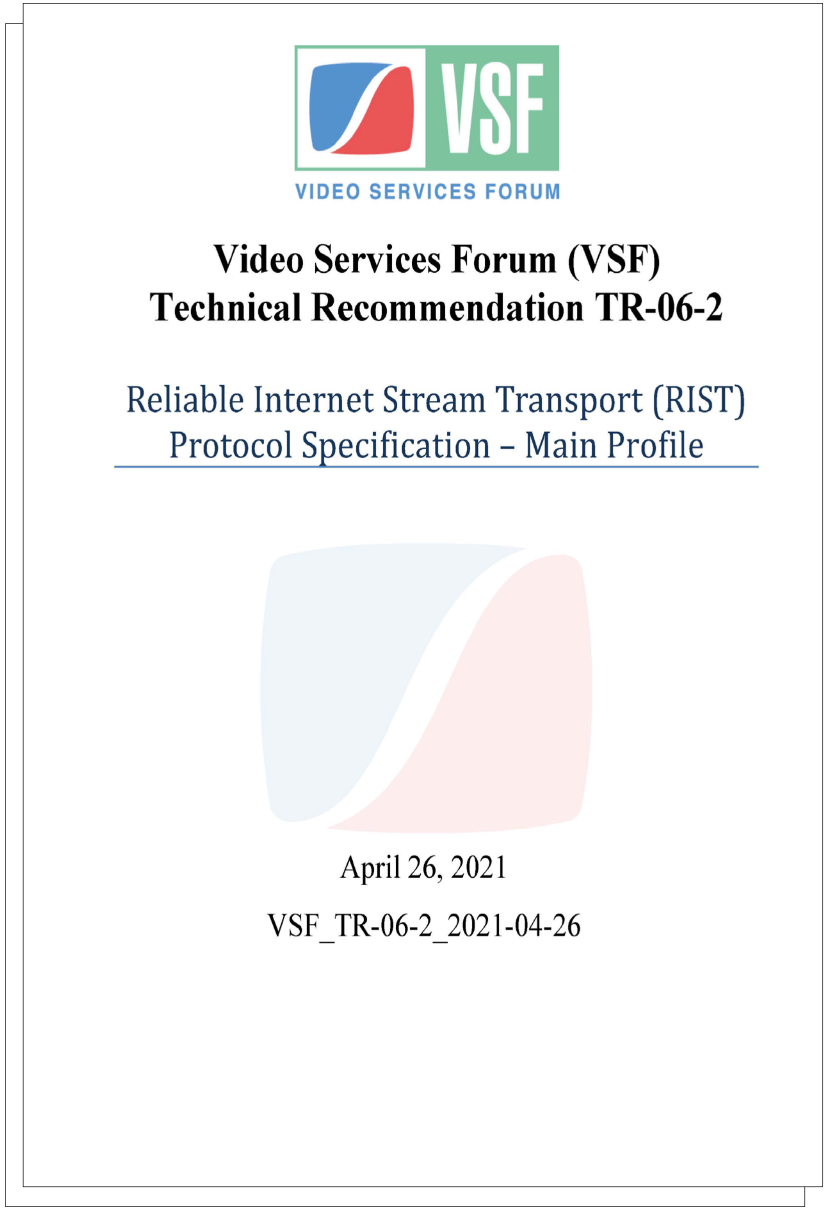
VSF
VIDEO SERVICES FORUM



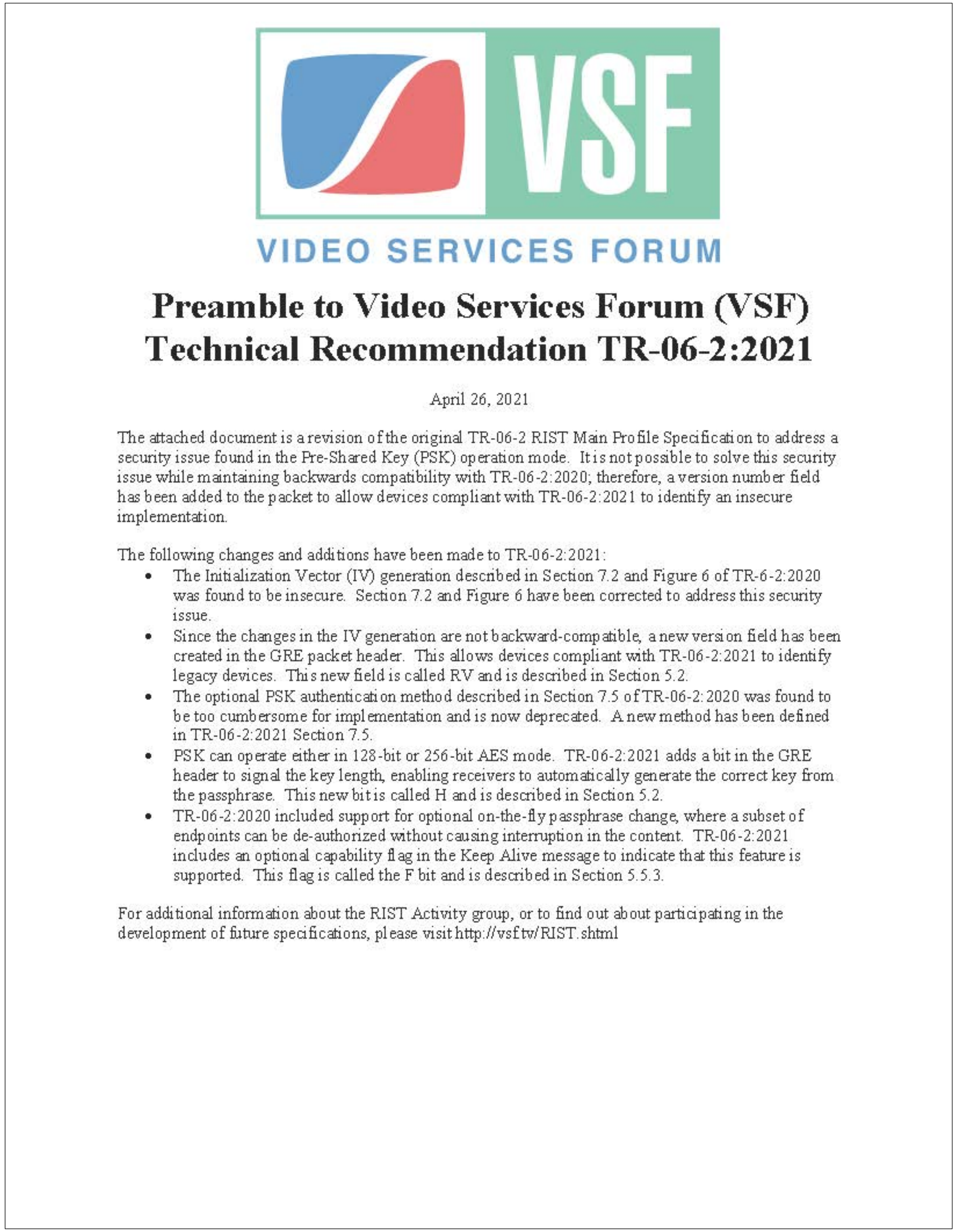
VIDEO SERVICES FORUM

Video Services Forum (VSF)
Technical Recommendation TR-06-2

Reliable Internet Stream Transport (RIST)
Protocol Specification – Main Profile

April 26, 2021

VSF_TR-06-2_2021-04-26



VSF

VIDEO SERVICES FORUM

Preamble to Video Services Forum (VSF) Technical Recommendation TR-06-2:2021

April 26, 2021

The attached document is a revision of the original TR-06-2 RIST Main Profile Specification to address a security issue found in the Pre-Shared Key (PSK) operation mode. It is not possible to solve this security issue while maintaining backwards compatibility with TR-06-2:2020; therefore, a version number field has been added to the packet to allow devices compliant with TR-06-2:2021 to identify an insecure implementation.

The following changes and additions have been made to TR-06-2:2021:

- The Initialization Vector (IV) generation described in Section 7.2 and Figure 6 of TR-6-2:2020 was found to be insecure. Section 7.2 and Figure 6 have been corrected to address this security issue.
- Since the changes in the IV generation are not backward-compatible, a new version field has been created in the GRE packet header. This allows devices compliant with TR-06-2:2021 to identify legacy devices. This new field is called RV and is described in Section 5.2.
- The optional PSK authentication method described in Section 7.5 of TR-06-2:2020 was found to be too cumbersome for implementation and is now deprecated. A new method has been defined in TR-06-2:2021 Section 7.5.
- PSK can operate either in 128-bit or 256-bit AES mode. TR-06-2:2021 adds a bit in the GRE header to signal the key length, enabling receivers to automatically generate the correct key from the passphrase. This new bit is called H and is described in Section 5.2.
- TR-06-2:2020 included support for optional on-the-fly passphrase change, where a subset of endpoints can be de-authorized without causing interruption in the content. TR-06-2:2021 includes an optional capability flag in the Keep Alive message to indicate that this feature is supported. This flag is called the F bit and is described in Section 5.5.3.

For additional information about the RIST Activity group, or to find out about participating in the development of future specifications, please visit http://vsf.tv/RIST.shtml

April 26, 2021

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Video Services Forum (VSF)
Technical Recommendation TR-06-3

Reliable Internet Stream Transport (RIST)
Protocol Specification – Advanced Profile

Coming Soon….

May 12, 2021

VSF_TR-06-3_2021_05_12

TR-06-3 Advanced Profile Key Elements:

Tunnel Level Enhancements, including:

- Packet recovery
- Transparent fragmentation support, with fragment-level recovery
- Lower-overhead transport options
- Pre-Shared Key operation enhancements, including packet integrity hashes
- Common format with the ST-2110 over WAN group
- Support for optional lossless packet payload data compression

Other Future RIST Functionality

- Support for Rendezvous.
- Registration Authority.

- The RIST Activity Group meets every Wednesday at 11AM ET.
- If you are a VSF member feel free to join the RIST Activity Group and participate.
- If you are not a VSF member. See Bob….

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