**LibreSSL vs GnuTLS**

**Initial Remarks**

LibreSSL and GnuTLS are both open-source cryptographic libraries that provide SSL/TLS and other cryptographic functionalities. Here are the key differences between LibreSSL and GnuTLS:

1. Origin and Forking: LibreSSL is a fork of OpenSSL that was created by the OpenBSD project. It was developed to address security concerns and code quality issues in OpenSSL. GnuTLS, on the other hand, is an independent project initiated by the Free Software Foundation (FSF) and developed by a community of contributors.
2. Codebase and Features: LibreSSL and GnuTLS have different codebases and feature sets. LibreSSL aims to be a drop-in replacement for OpenSSL with a focus on security, code simplicity, and compatibility with existing applications and protocols. It removes or rewrites code from OpenSSL that is considered unnecessary, deprecated, or problematic. GnuTLS, on the other hand, is designed to provide a flexible, portable, and extensible TLS library. It offers a wide range of features and support for various cryptographic protocols, including SSL/TLS, DTLS, and SSH.
3. Development and Community: LibreSSL is primarily maintained by the OpenBSD project, benefiting from the contributions and expertise of the OpenBSD community. GnuTLS is developed by a diverse community of contributors and supported by the Free Software Foundation (FSF). Both projects have their development processes and community support.
4. Platform Support: Both LibreSSL and GnuTLS support multiple platforms, including Linux, BSD, macOS, and Windows. However, GnuTLS has a broader platform support, including embedded systems, and is often included in Linux distributions as the default SSL/TLS library.
5. Licensing: LibreSSL is released under the OpenBSD License, which is a permissive license similar to the ISC License. GnuTLS is licensed under the GNU Lesser General Public License (LGPL), which is a copyleft license.
6. Industry Adoption: LibreSSL has gained significant adoption, particularly in the OpenBSD and BSD communities, and is the default SSL/TLS library in OpenBSD. GnuTLS is widely used in the Linux ecosystem and is included in various Linux distributions. It is also used by applications that prioritize open-source and free software.

When choosing between LibreSSL and GnuTLS, consider your specific requirements, platform support, licensing preferences, and the compatibility needs of your applications and protocols. If you need a drop-in replacement for OpenSSL with a focus on security and compatibility, LibreSSL may be a suitable choice. If you are targeting a Linux environment and require a flexible TLS library with extensive features, GnuTLS might be a better fit.

**Testcase Directories:**

1. 20220421\_170459\_libressl-2.4.0-gnutls-3.5.0-dynamic-update-1\_tgt-0\_all
2. 20220421\_174407\_libressl-2.4.0-gnutls-3.5.0-dynamic-update-1\_tgt-1\_all
3. 20220511\_172205\_libressl-2.4.0-gnutls-3.5.0-dynamic-update-1-rank-1-00fa7\_tgt-0\_all
4. 20220511\_180226\_libressl-2.4.0-gnutls-3.5.0-dynamic-update-1-rank-1-00fa7\_tgt-1\_all
5. 20220511\_183623\_libressl-2.4.0-gnutls-3.5.0-dynamic-update-1-rank-2-aacea\_tgt-0\_all
6. 20220511\_191009\_libressl-2.4.0-gnutls-3.5.0-dynamic-update-1-rank-2-aacea\_tgt-1\_all
7. 20230109\_194455\_libressl-2.4.0-gnutls-3.5.0\_tgt-0\_base\_MR-runtime-1
8. 20230110\_112820\_libressl-2.4.0-gnutls-3.5.0\_tgt-0\_base\_f\_MR-runtime-1
9. 20230111\_031245\_libressl-2.4.0-gnutls-3.5.0\_tgt-0\_base\_cf\_MR-runtime-1
10. 20230111\_193028\_libressl-2.4.0-gnutls-3.5.0\_tgt-0\_base\_cdf\_MR-runtime-1
11. 20230111\_230327\_libressl-2.4.0-gnutls-3.5.0\_tgt-0\_loop\_f\_MR-runtime-1
12. 20230112\_033126\_libressl-2.4.0-gnutls-3.5.0\_tgt-0\_template\_MR-runtime-1
13. 20230112\_054057\_libressl-2.4.0-gnutls-3.5.0\_tgt-0\_all\_MR-runtime-1
14. 20230112\_091646\_libressl-2.4.0-gnutls-3.5.0\_tgt-1\_base\_MR-runtime-1
15. 20230115\_103618\_libressl-2.4.0-gnutls-3.5.0\_tgt-1\_base\_f\_MR-runtime-1
16. 20230116\_202602\_libressl-2.4.0-gnutls-3.5.0\_tgt-1\_base\_cf\_MR-runtime-1
17. 20230118\_113400\_libressl-2.4.0-gnutls-3.5.0\_tgt-1\_base\_cdf\_MR-runtime-1