

Customer

German network equipment and wireless devices manufacturer.

Objective

Add SSL (Secure Socket Layer) support for SOAP applications running on the customer's MIPS boards under uCLinux. The OpenSSL library was not recommended as it did not meet size constraints for the embedded application.



Solution

Due to size constraints NOR flash memory of the hardware platform, the choice of an SSL library became quite a challenge. A thorough analysis showed that the axTLS library would be the best to replace OpenSSL, though initially the customer's SOAP application used OpenSSL.

To minimize development efforts during transition to axTLS, it was decided to develop a wrapper for OpenSSL API calls. Thus, the source code of the original SOAP application did not require changes, while OpenSSL calls were directed via the wrapper into axTLS calls.

Benefits and features

- axTLS allowed reducing the size of the SSL part to 75 KB from the original 800 KB with OpenSSL;
- The axTLS wrapper did not require any modification of the original SOAP application.

Design tools	GCC
Technologies	SSL, SOAP, uCLinux
Programming languages	C
Project management tools	MS Project, CVS
Efforts	20 man-days
Duration	1 months