Conclusion:

The notion of authorized data dedupli- cation was proposed to protect the data security by including differential privileges of users in the duplicate check. We also presented several new deduplication constructions supporting authorized duplicate check in hybrid cloud architecture, in which the duplicate-check tokens of files are generated by the private cloud server with private keys. Security analysis demonstrates that our schemes are secure in terms of insider and outsider attacks specified in the proposed security model. As a proof of concept, we implemented a prototype of our proposed authorized duplicate check scheme and con- duct testbed experiments on our prototype. We showed that our authorized duplicate check scheme incurs min- imal overhead compared to convergent encryption and network transfer.