# CONCLUSION

We addressed an interesting and long-lasting problem in cloud-based data sharing, and presented two dual access control systems. The proposed systems are resistant to DDoS/EDoS attacks. We state that the technique used to achieve the feature of control on download request is “transplantable” to other CP-ABE constructions. Our experimental results show that the proposed systems do not impose any significant computational and communication overhead (compared to its underlying CP-ABE building block). In our enhanced system, we employ the fact that the secret information loaded into the enclave cannot be extracted. However, recent work shows that enclave may leak some amounts of its secret(s) to a malicious host through the memory access patterns [37] or other related side-channel attacks [14], [30]. The model of transparent enclave execution is hence introduced in [35]. Constructing a dual access control system for cloud data sharing from transparent enclave is an interesting problem. In our future work, we will consider the corresponding solution to the problem.