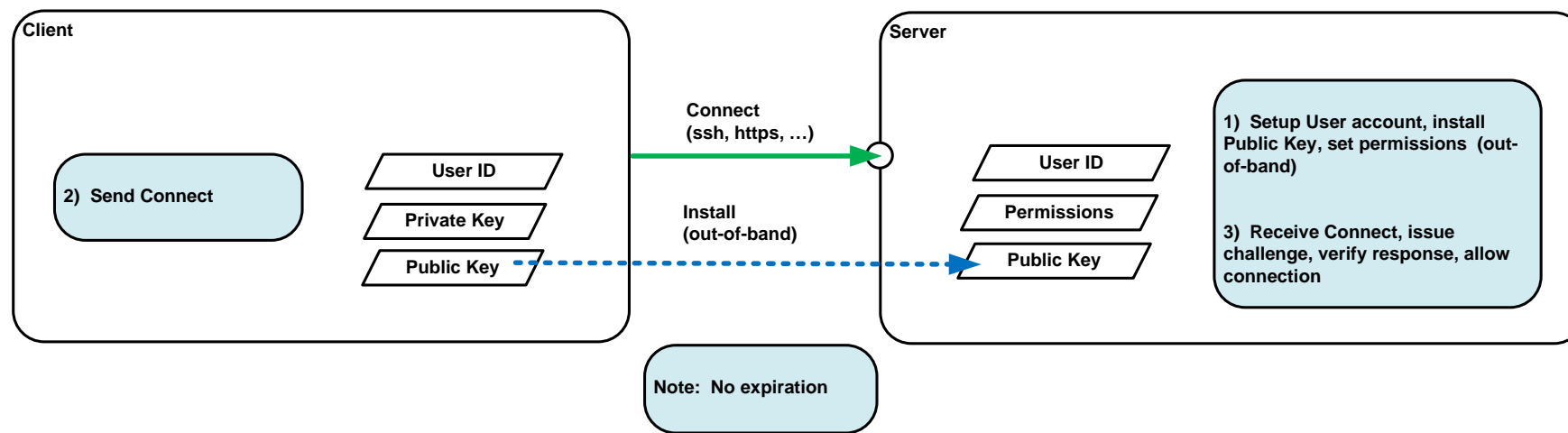
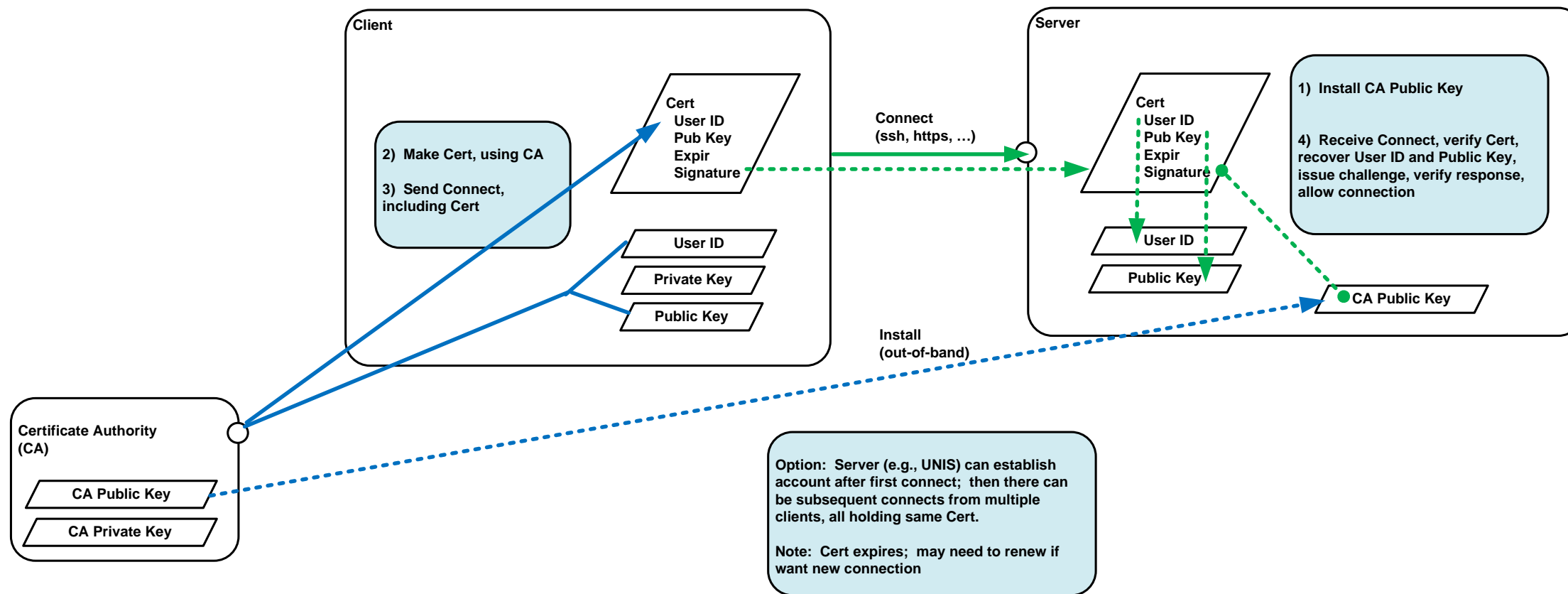


Case 1: Use Key Pair to Connect

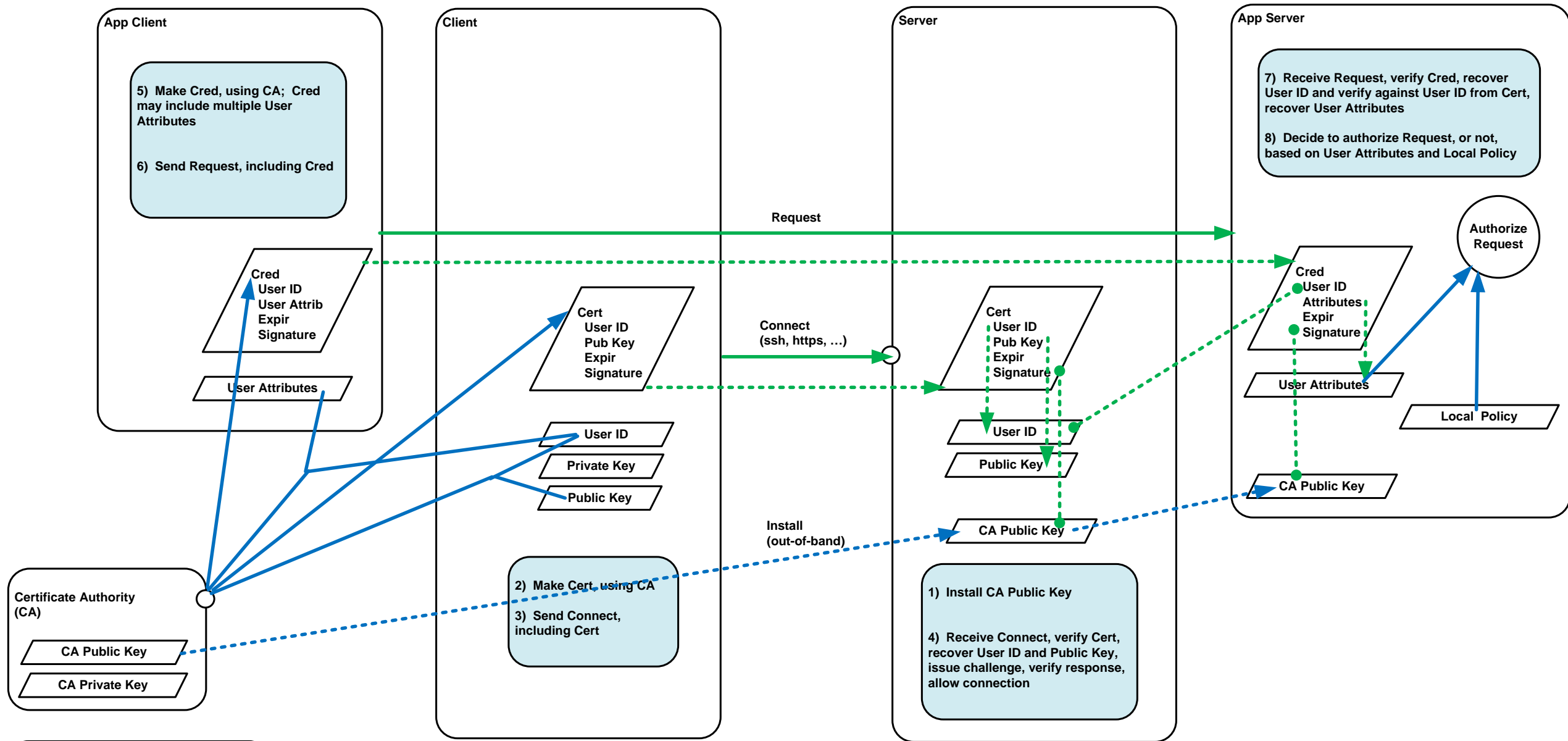


Case 1b: Use Certificate to Connect



Case 2: Use Certificate to Connect, Credential to Authorize Request

Note: This is the approach used authorization of requests to the GENI AM API



Note: There may be multiple Authorities to sign certificates and credentials. (In GENI, there is a Certificate Authority and a separate Slice Authority)

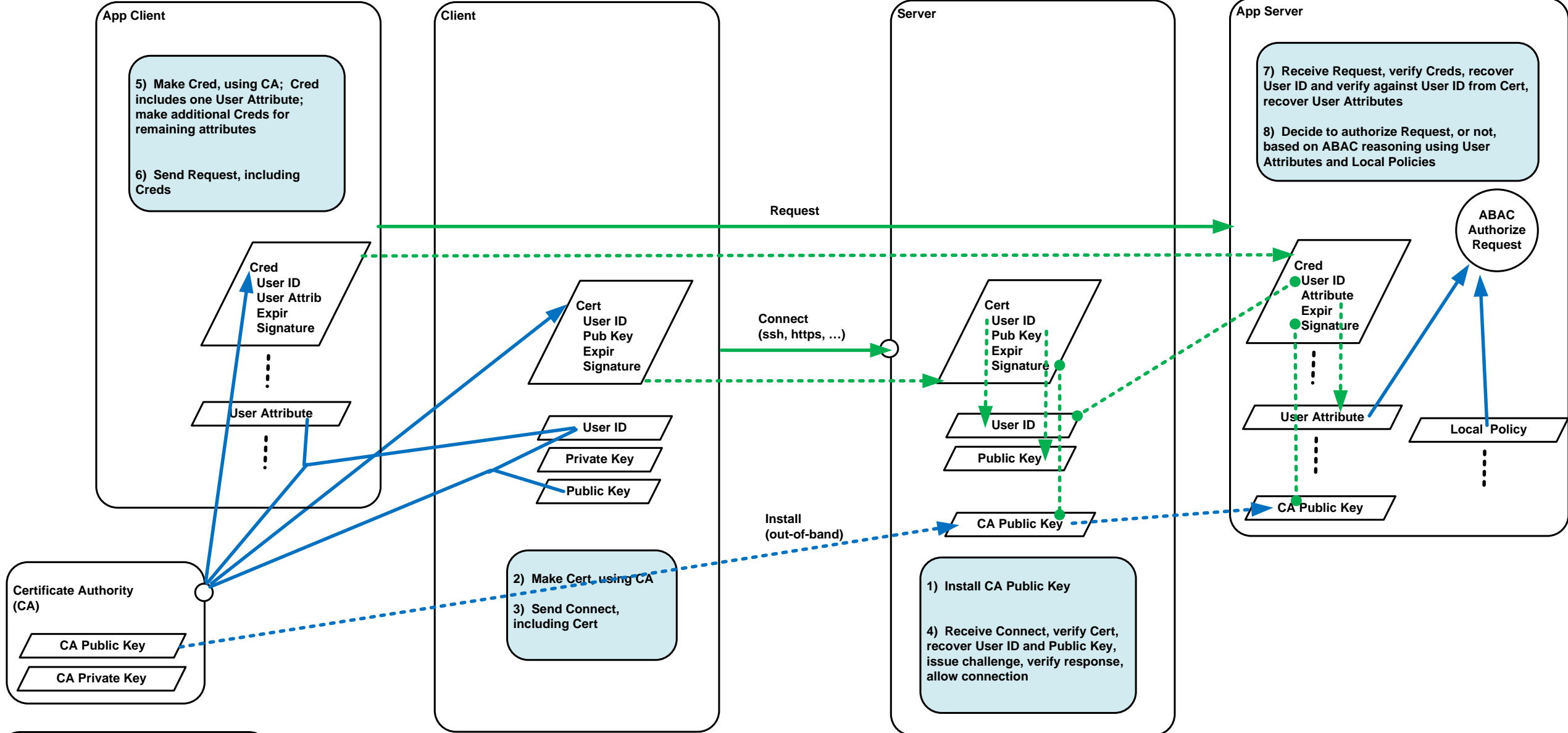
Option: Server (e.g., UNIS) can establish account after first connect; then there can be subsequent connects from multiple clients, all holding same Certs and Creds

Note: Cert expires; may need to renew if want new connection

Note: Cred expires; will need to renew to be able to authorize continued requests

Case 2b: Use Certificate to Connect, ABAC to Authorize Request

Note: Support for ABAC in GENI is not yet committed.



Note: There may be multiple Authorities to sign certificates and credentials. (In GENI, there is a Certificate Authority and a separate Slice Authority)

Option: Server (e.g., UNIS) can establish account after first connect; then there can be subsequent connects from multiple clients, all holding same Certs and Creds

Note: Cert expires; may need to renew if want new connection

Note: Creds expire; will need to renew to be able to authorize continued requests