$\sim$ X\_1 = ( $\sim$ M\_1, $\sim$ M\_2, $\sim$ M\_3) = choice[(attvid\_4,attsk\_4,cert(attvid\_4,pk(attsk\_4),cask\_4)),(attvid\_5,attsk\_5,cert(attvid\_5,pk(attsk\_5),cask\_5))] ~M\_5 = choice[aenc((groupkey\_request,nonce\_11, sign(groupkey\_request,vsk\_9),cert(vid\_13,pk(vsk\_9), cask\_4)),pk(cask\_4)),aenc((groupkey\_request,nonce\_13, sign(groupkey\_request,vsk\_11),cert(vid\_15,pk(vsk\_11), cask\_5)),pk(cask\_5))] ~M\_7 = choice[aenc((groupkey\_request,nonce\_10, sign(groupkey\_request,vsk\_8),cert(vid\_12,pk(vsk\_8), cask\_4)),pk(cask\_4)),aenc((groupkey\_request,nonce\_12, sign(groupkey\_request,vsk\_10),cert(vid\_14,pk(vsk\_10), cask\_5)),pk(cask\_5))] A trace has been found. ~M\_8 = choice[aenc(((groupkey\_response,nonce\_11, vid\_13,gsk(vid\_13,gmsk\_4),gpk(gmsk\_4)),sign((groupkey\_response, nonce\_11,vid\_13,gsk(vid\_13,gmsk\_4),gpk(gmsk\_4)), cask\_4)),pk(vsk\_9)),aenc(((groupkey\_response,nonce\_13, vid\_15,gsk(vid\_15,gmsk\_5)),sign((groupkey\_response, nonce\_13,vid\_15,gsk(vid\_15,gmsk\_5)),gpk(gmsk\_5)), cask\_5)),pk(vsk\_11))] **Honest Process** Attacker {1}new gmsk\_4 {2}new cask\_4 {3}new vid\_12 {4}new vsk\_8 {5}new nonce\_10 {6}new vid\_13 {7}new vsk\_9 {8}new nonce\_11 {9}new attvid\_4 {10} new attsk\_4 {11}new gmsk\_5 {12}new cask\_5 {13}new vid\_14 {14} new vsk\_10 {15} new nonce\_12 {16} new vid\_15 {17} new vsk\_11 {18} new nonce\_13 {19}new attvid\_5 {20} new attsk\_5  $\sim$ M = pk(choice[cask 4,cask 5]) {181}event choice[AttackerGetsEnrollmentCertificate(attvid\_4,pk(attsk\_4)),AttackerGetsEnrollmentCertificate(attvid\_5,pk(attsk\_5))] {186} event WaitingRequest  $\sim$ M\_4 = choice[cert(vid\_13,pk(vsk\_9),cask\_4),cert(vid\_15,pk(vsk\_11),cask\_5)] {107} event ValidGroupKeyRequestSent(choice[vid\_13, vid\_15]) ~M 5  $\sim$ M\_6 = choice[cert(vid\_12,pk(vsk\_8),cask\_4),cert(vid\_14,pk(vsk\_10),cask\_5)] {30} event ValidGroupKeyRequestSent(choice[vid\_12, vid\_14]) ~M 7 ~M 5 {213}event GroupKeyRequestReceived(choice[aenc(groupkey\_request,nonce\_11,sign(groupkey\_request,vsk\_9),cert(vid\_13,pk(vsk\_9),cask\_4)),pk(cask\_4)), aenc((groupkey\_request,nonce\_13,sign(groupkey\_request,vsk\_11),cert(vid\_15,pk(vsk\_11),cask\_5)),pk(cask\_5))]) {214}event choice[ValidGroupKeyRequestReceived(cask\_4,vid\_13),ValidGroupKeyRequestReceived(cask\_5,vid\_15)] {219}event choice[ValidGroupPrivateKeySent(vid\_13, gsk(vid\_13,gmsk\_4),gpk(gmsk\_4)),ValidGroupPrivateKeySent(vid\_15,gsk(vid\_15,gmsk\_5),gpk(gmsk\_5))] ~M 8 ~M 8 {116}new vpseudosk 10 {117}new vpseudosk 11 {118} new m 12 [138] if choice[true,false]
This process performs a test that may succeed on one side and not on the other.

Abbreviations