Abbreviations ~X\_1 = (~M\_1,~M\_2,~M\_3) = choice[(attvid\_6,attsk\_6,cert(attvid\_6,pk(attsk\_6),cask\_6)),(attvid\_7,attsk\_7,cert(attvid\_7,pk(attsk\_7),cask\_7))] ~M\_5 = choice[aenc((groupkey\_request, sign(groupkey\_request, vsk\_13),cert(vid\_31,pk(vsk\_13),cask\_6)),pk(cask\_6)), aenc((groupkey\_request, sign(groupkey\_request, vsk\_15), cert(vid\_33,pk(vsk\_15),cask\_7)),pk(cask\_7))] ~M\_7 = choice[aenc((groupkey\_request, sign(groupkey\_request, vsk\_12),cert(vid\_30,pk(vsk\_12),cask\_6)),pk(cask\_6)), aenc((groupkey\_request, sign(groupkey\_request, vsk\_14), cert(vid\_32,pk(vsk\_14),cask\_7)),pk(cask\_7))] Attacker **Honest Process** {1}new gmsk\_6 {2}new cask 6 {3}new vid\_30 {4}new vsk 12 {5}new vid 31 {6}new vsk 13 {7}new attvid 6 {8}new attsk\_6 {9}new gmsk\_7 {10} new cask\_7 {11}new vid\_32 {12}new vsk\_14 {13} new vid\_33 {14} new vsk\_15 {15} new attvid\_7 {16} new attsk 7  $\sim$ M = pk(choice[cask\_6,cask\_7]) {325}event choice[AttackerGetsEnrollmentCertificate(attvid\_6,pk(attsk\_6)),AttackerGetsEnrollmentCertificate(attvid\_7,pk(attsk\_7))] ~X 1  $\sim$  M\_4 = choice[cert(vid\_31,pk(vsk\_13),cask\_6),cert(vid\_33,pk(vsk\_15),cask\_7)] ~M 5  $\sim M_6 = \frac{\text{choice}[\text{cert}(\text{vid}_30,\text{pk}(\text{vsk}_12),\text{cask}_6),\text{cert}(\text{vid}_32,\text{pk}(\text{vsk}_14),\text{cask}_7)]}{\text{vid}_32,\text{pk}(\text{vsk}_14),\text{cask}_7)]}$ ~M 5 {400} get v\_344: table suchthat (if choice[true, false] then (success?(1-proj-revokedcerts(v\_344)) && (choice[vid\_31,caught-fail] =nf 1-proj-revokedcerts(v\_344))) else (success?(1-proj-revokedcerts(v\_344)) && (choice[caught-fail,vid\_33] =nf 1-proj-revokedcerts(v\_344)))): else branch taken {358}if (if choice[true,false] then not(choice[true,false]) else not((choice[false,true] && choice[caught-fail,false])))

{177}event ValidGroupKeyRequestSent(choice[vid\_31, vid\_33])

~M 7

This process performs a test that may succeed on one side and not on the other.

{26} event ValidGroupKeyRequestSent(choice[vid\_30, vid\_32])

A trace has been found.