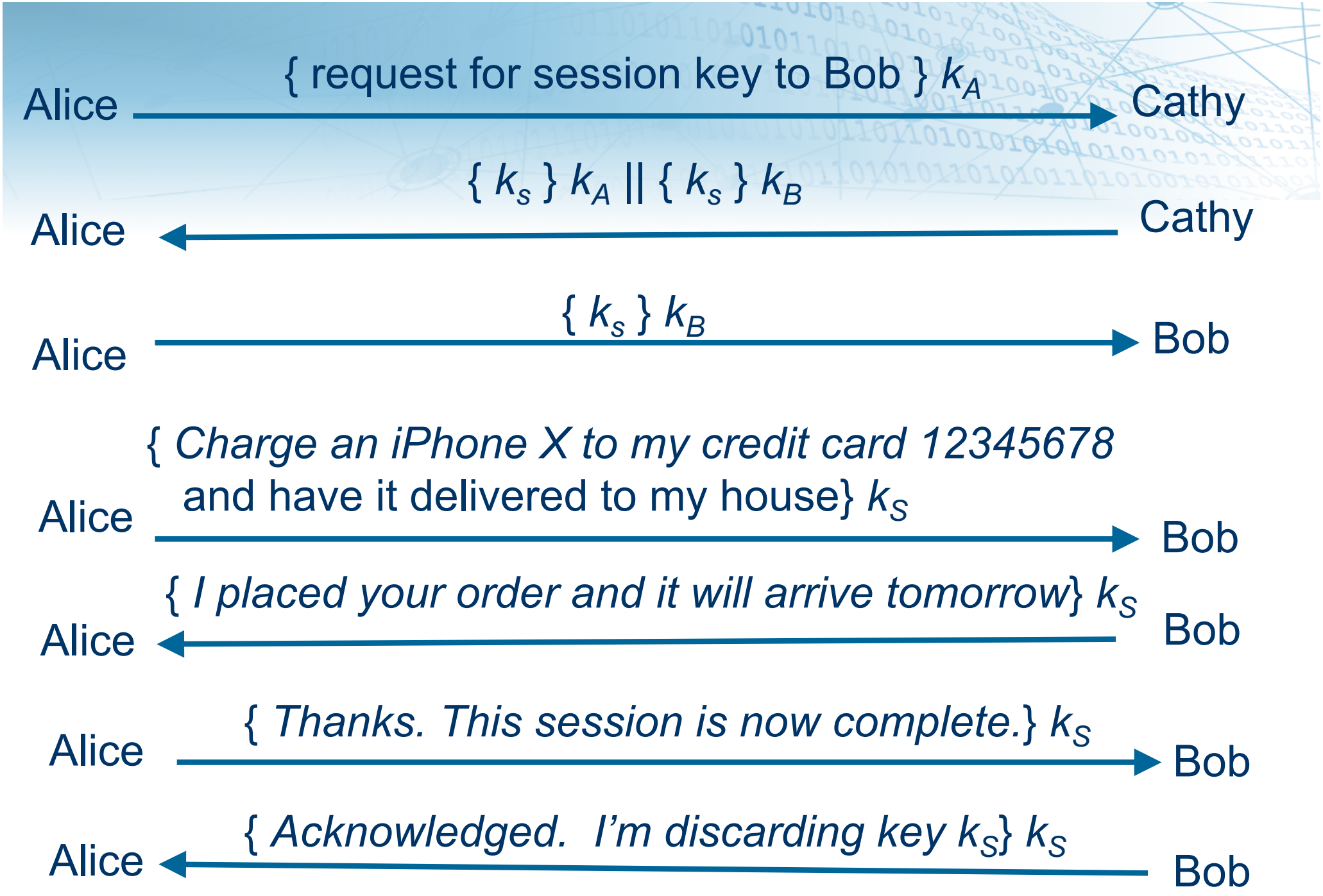
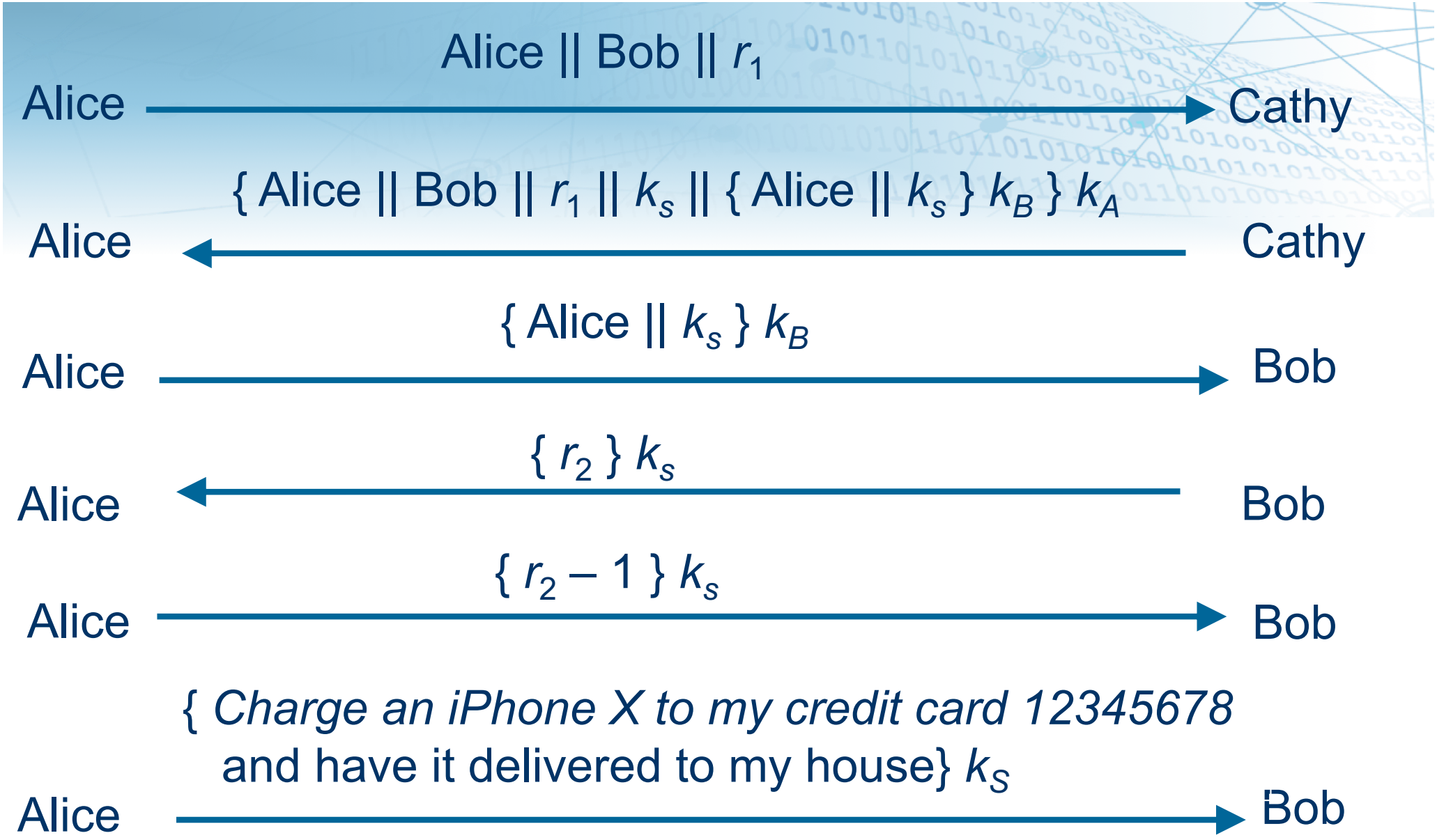
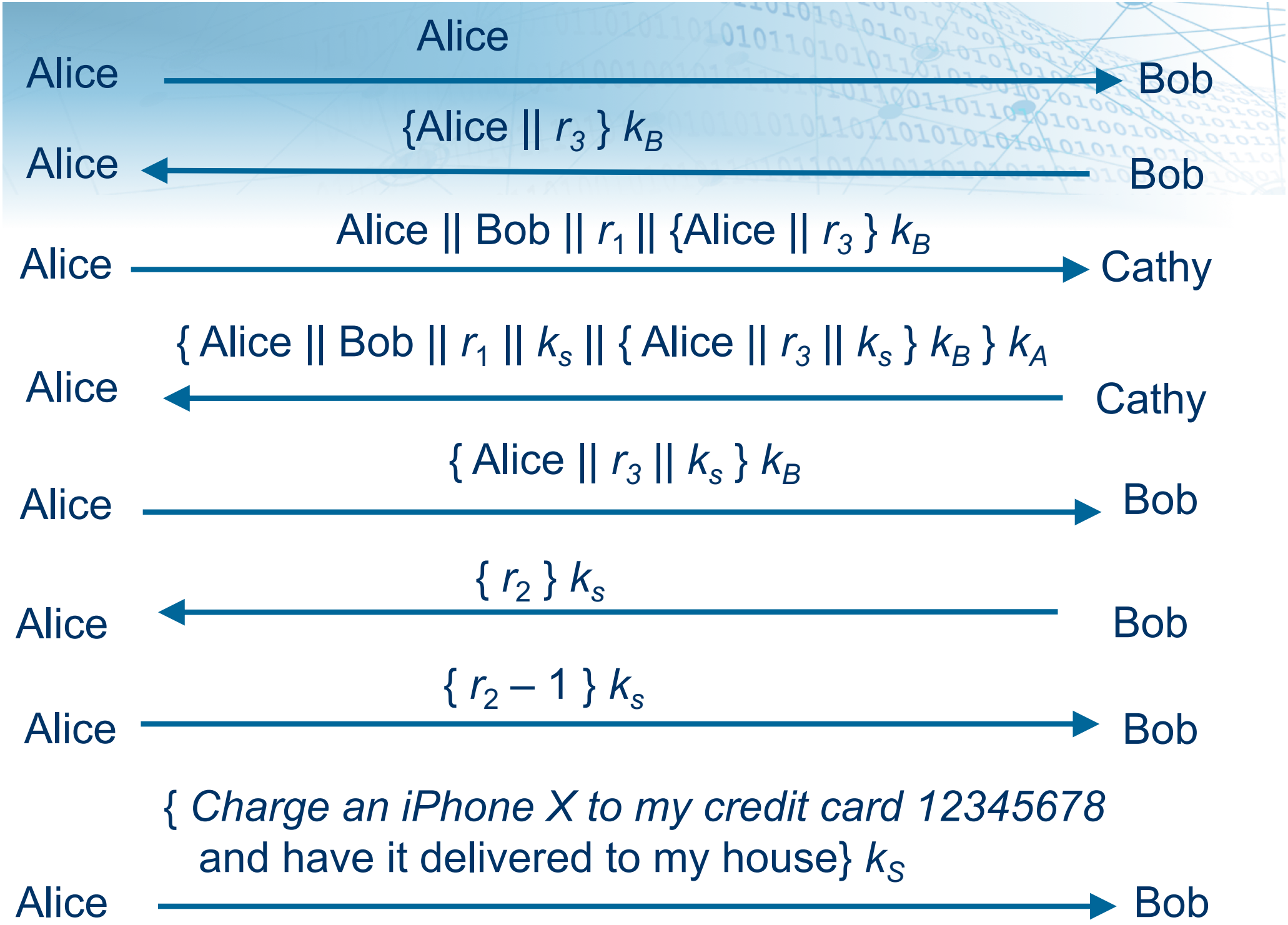


Notation: {msg} k_B indicates "msg" was encrypted with key k_B


Alice || Bob || r_1
Alice
Cathy
{ Alice || Bob || r_1 || k_s || { Alice || k_s } k_B } k_A
Alice
Cathy
{ Alice || k_s } k_B
Alice
Bob
{ r_2 } k_s
Alice
Bob
{ r_2 – 1 } k_s
Alice
Bob
{ *Charge an iPhone X to my credit card 12345678*
and have it delivered to my house} k_S
Alice
Bob


Alice
Alice
Bob
{Alice || r_3 } k_B
Alice
Bob
Alice || Bob || r_1 || {Alice || r_3 } k_B
Alice
Cathy
{ Alice || Bob || r_1 || k_s || { Alice || r_3 || k_s } k_B } k_A
Alice
Cathy
{ Alice || r_3 || k_s } k_B
Alice
Bob
{ r_2 } k_s
Alice
Bob
{ r_2 – 1 } k_s
Alice
Bob
{ Charge an iPhone X to my credit card 12345678
and have it delivered to my house} k_S
Alice
Bob