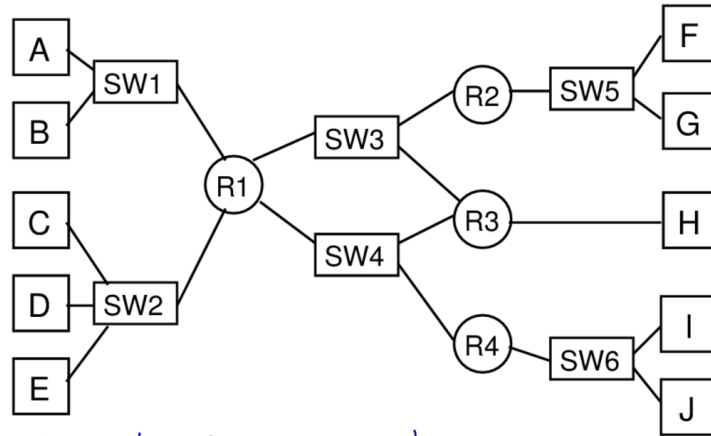


# ITS335 – Key Management and Distribution Notes



Link-level : 20 keys

End-to-end (host) :  $\frac{10 \times 9}{2} = 45$  keys

End-to-end (5 apps) :  $5 \times 45 = 225$  keys



End-to-end (5 apps, any) :  $\frac{50 \times 49}{2} = 1225$  keys



Figure 1: End-to-end vs Link Encryption; Lecture 20

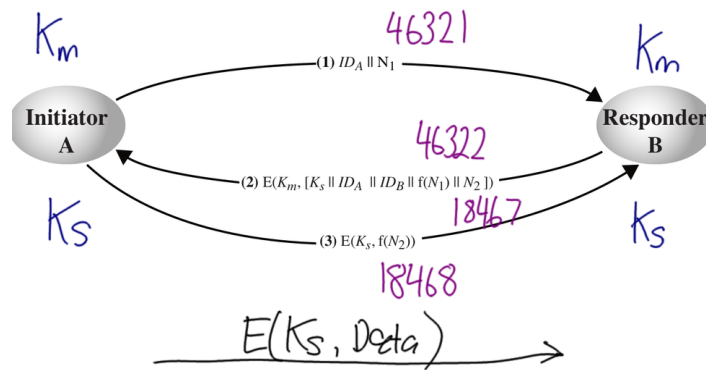


Figure 2: Decentralised Secret Key Distribution 1; Lecture 20

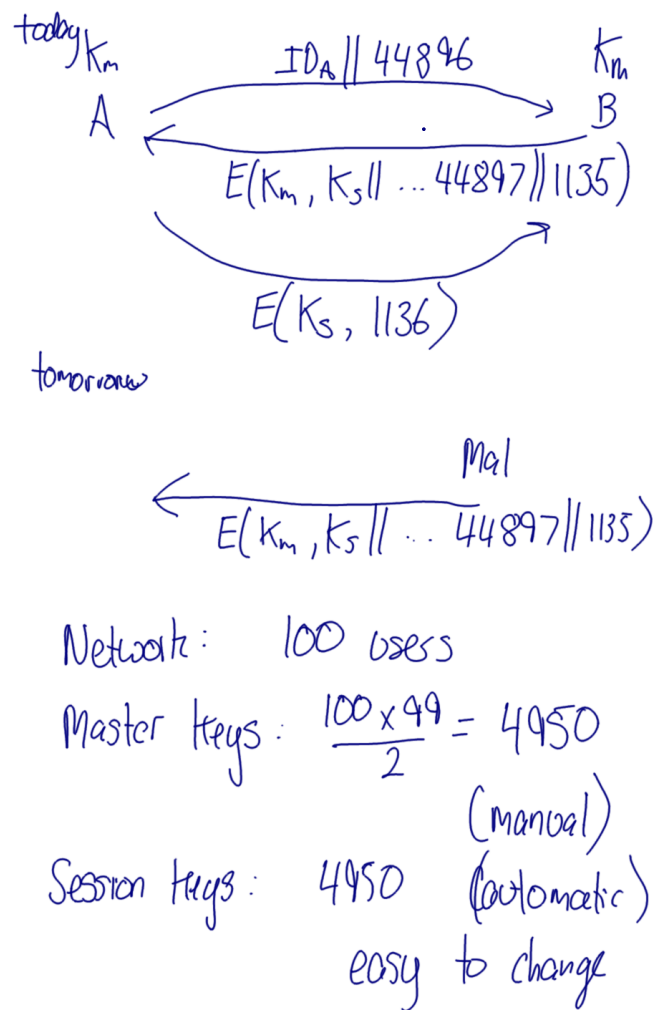


Figure 3: Decentralised Secret Key Distribution 2; Lecture 20

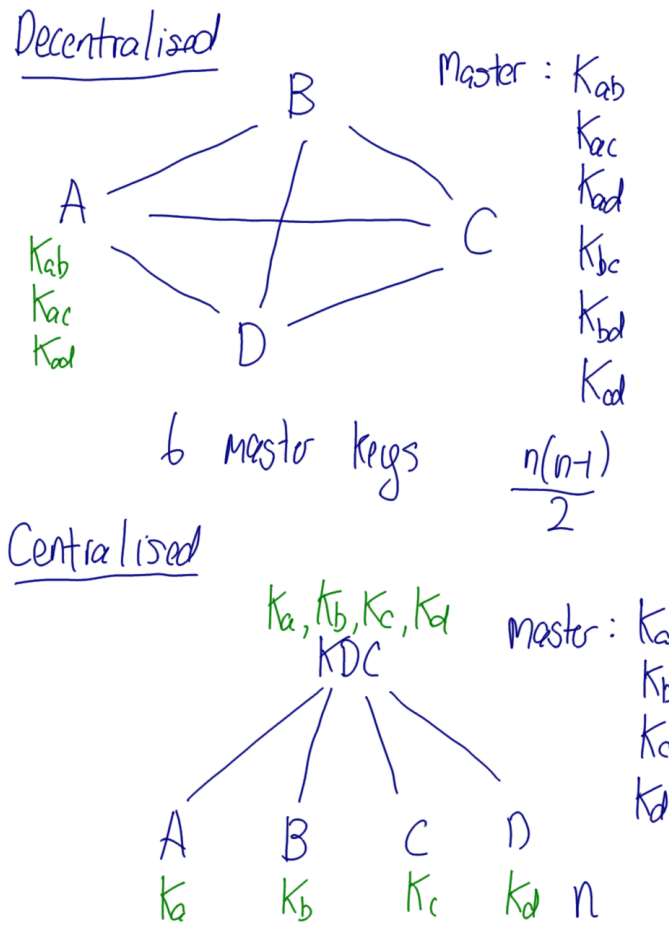


Figure 4: Decentralised vs Centralised Key Distribution; Lecture 22

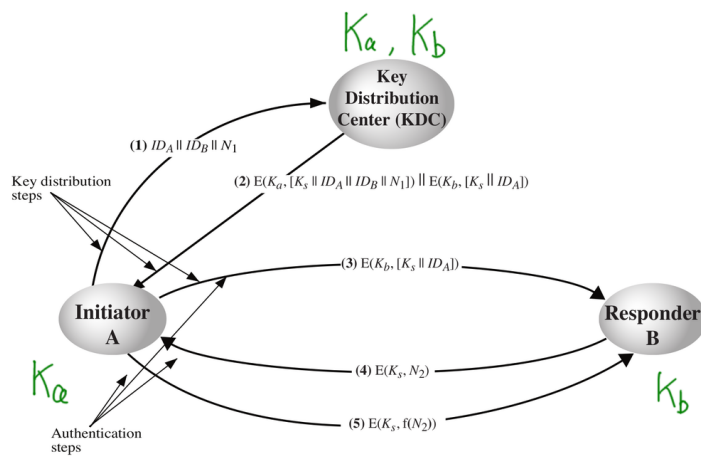


Figure 5: KDC Keys Known Before Exchange; Lecture 22

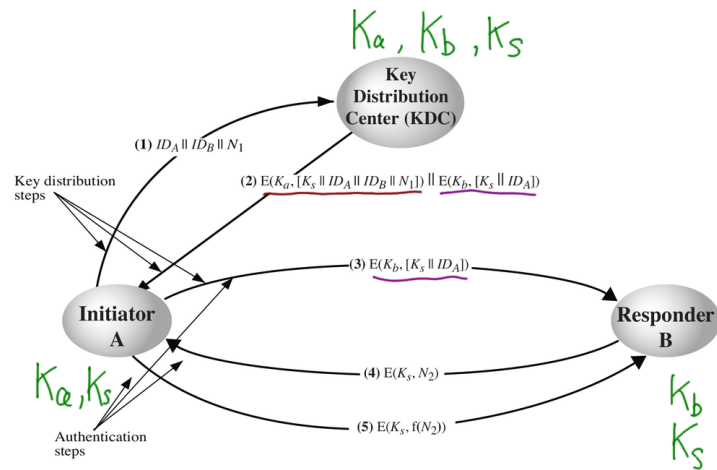


Figure 6: KDC Keys Known After Exchange; Lecture 22

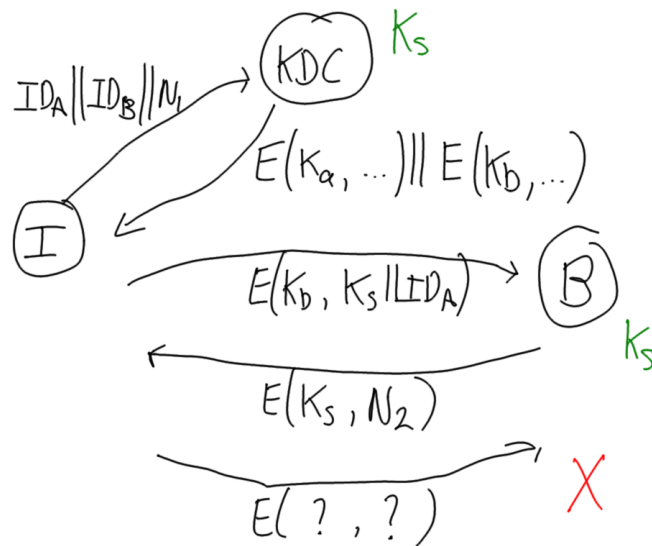


Figure 7: Attack on KDC Key Exchange 1; Lecture 22

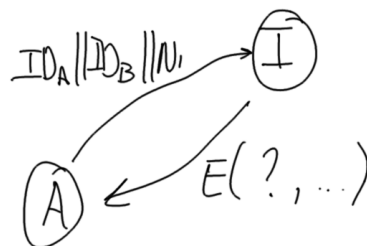


Figure 8: Attack on KDC Key Exchange 2; Lecture 22

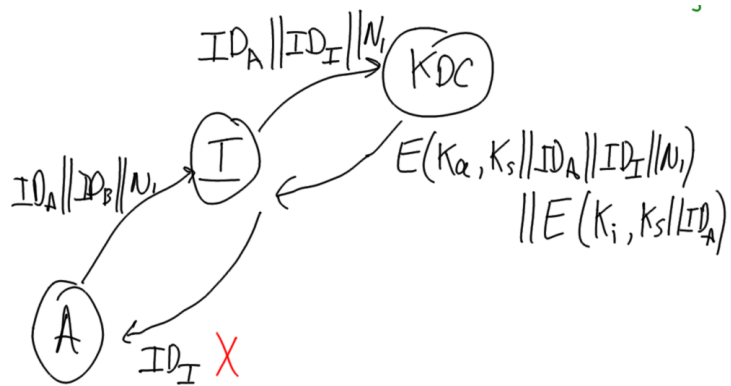


Figure 9: Attack on KDC Key Exchange 3; Lecture 22

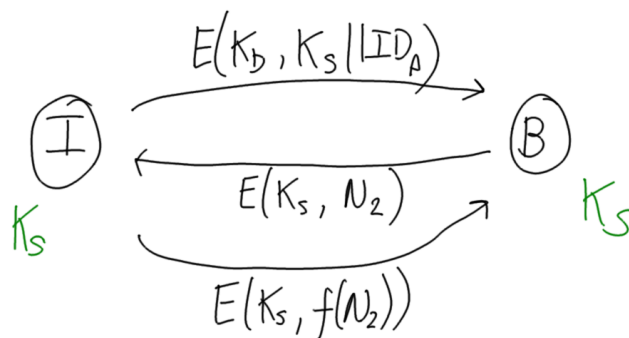


Figure 10: Attack on KDC Key Exchange 4; Lecture 22

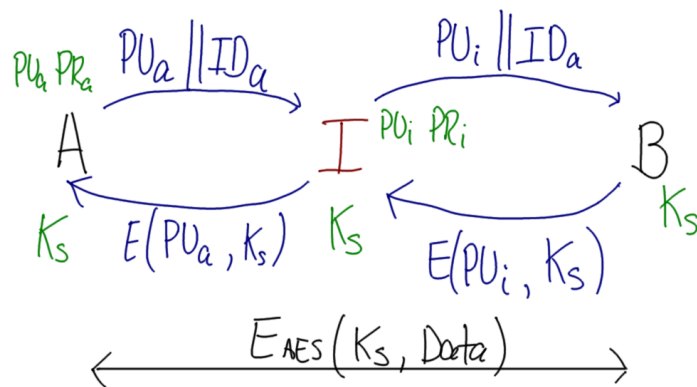


Figure 11: Man-in-the-Middle Attack on Public Key Exchange; Lecture 23

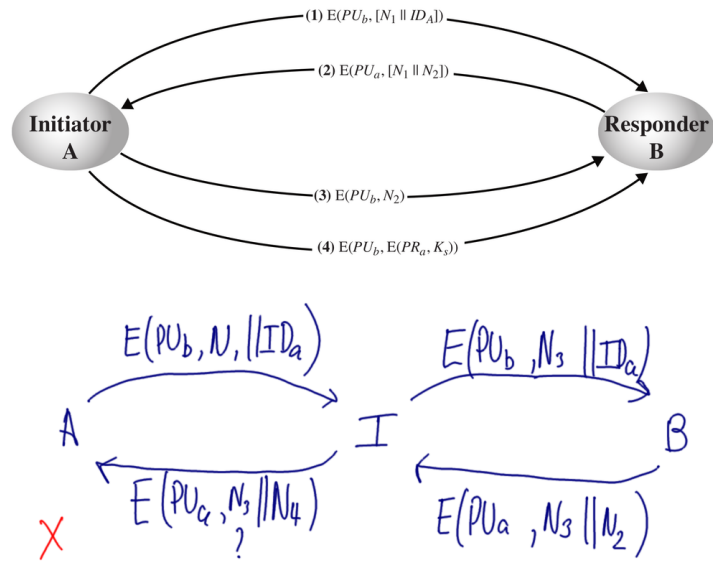


Figure 12: Failed Attack on Public Key Based Secret Distribution; Lecture 23

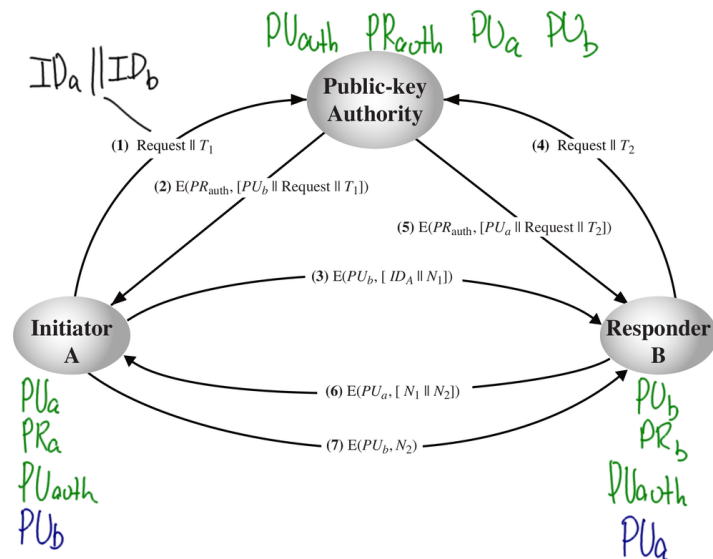


Figure 13: Public Key Authority for Public Key Distribution; Lecture 23

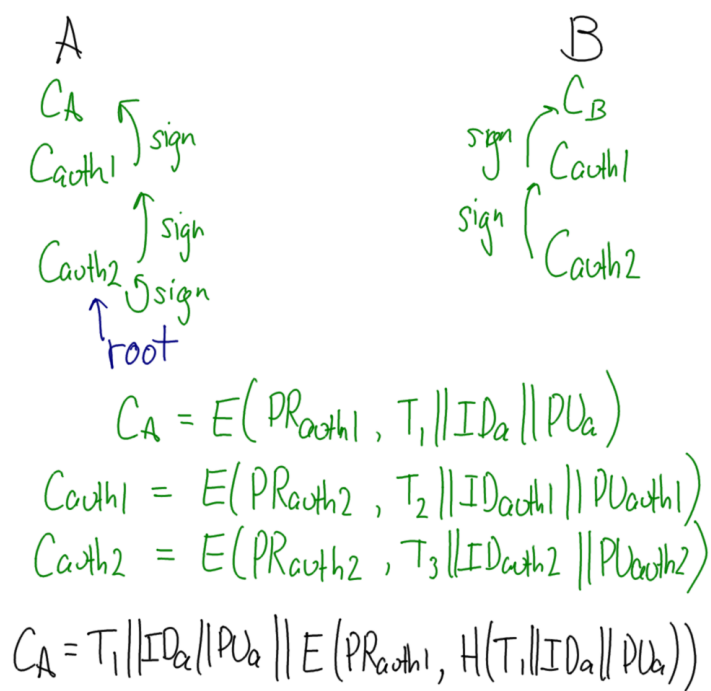


Figure 14: Certificate Hierarchy or Chain; Lecture 24