SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING(IoT and Cybersecurity Including BCT)

COURSE NAME : Fundamentals Of Cryptography

II YEAR / III SEMESTER

Unit III-

Topic : Key Distribution Techniques

- In cryptography, it is a very tedious task to distribute the public and private keys between sender and receiver.
- If the key is known to the third party (forger/eavesdropper) then the whole security mechanism becomes worthless. So, there comes the need to secure the exchange of keys.

There are two aspects for Key Management:

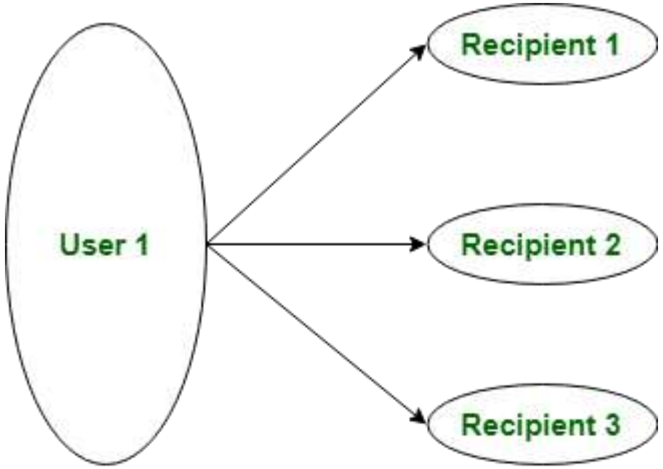
1.Distribution of public keys.
2.Use of public-key encryption to distribute secrets.

Distribution of Public Key:

The public key can be distributed in four ways:

1.Public announcement
2.Publicly available directory
3.Public-key authority
4.Public-key certificates.

1. **Public Announcement:** Here the public key is broadcasted to everyone. The major weakness of this method is a forgery. Anyone can create a key claiming to be someone else and broadcast it. Until forgery is discovered can masquerade as claimed user.



Public Key Announcement

1. **Publicly Available Directory:** In this type, the public key is stored in a public directory. Directories are trusted here, with properties like Participant Registration, access and allow to modify values at any time, contains entries like {name, public-key}. Directories can be accessed electronically still vulnerable to forgery or tampering.
2. **Public Key Authority:** It is similar to the directory but, improves security by tightening control over the distribution of keys from the directory. It requires users to know the public key for the directory. Whenever the keys are needed, real-time access to the directory is made by the user to obtain any desired public key securely.
3. **Public Certification:** This time authority provides a certificate (which binds an identity to the public key) to allow key exchange without real-time access to the public authority each time. The certificate is accompanied by some other info such as period of validity, rights of use, etc. All of this content is signed by the private key of the certificate authority and it can be verified by anyone possessing the authority's public key.