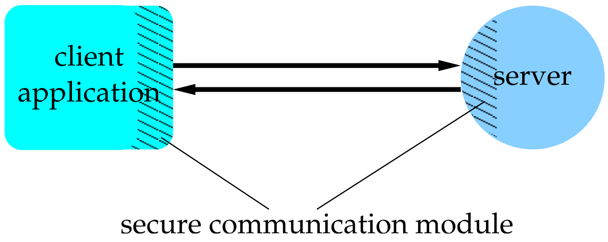
CSCI 7000-001 — Other Techniques to Secure Client/Server Systems

October 16, 2001

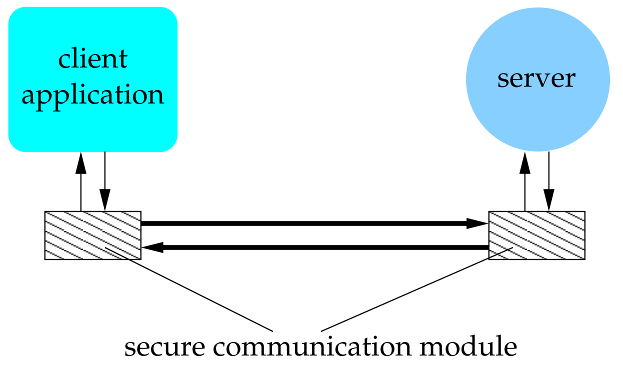
1 Focus

- integrated security mechanisms (e.g., SSL)
- external security mechanism: *tunneling*
- SSH tunneling
- SSL tunneling

2 Integrated security mechanisms



3 External security mechanisms: tunneling



4 Tunneling with SSH

command-line parameters:

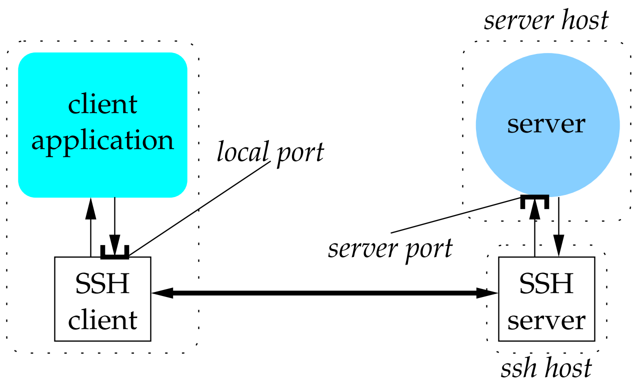
`ssh -L` *local-port*`:`*server-host*`:`*server-port ssh-host*

example:

`ssh -L 1110:serl:110 serl`

configuration file:

```
Host serl+pop
        HostName serl.cs.colorado.edu
        LocalForward 1110 serl.cs.colorado.edu:110
```



5 Comparison

- integrated
  - \+ no need for external components
  - \+ better performances (one TCP connection instead of three)
  - \+ allows finer-grained authentication
  - \- need to modify application components
- external
  - \+ no need to modify application
  - \+ good security for legacy applications
  - \+ “central” authentication point
  - \+ limited form of anonymization
  - \- introduces external components
  - \- introduces performance bottleneck
  - \- “central” authentication point
  - \- limited form of anonymization