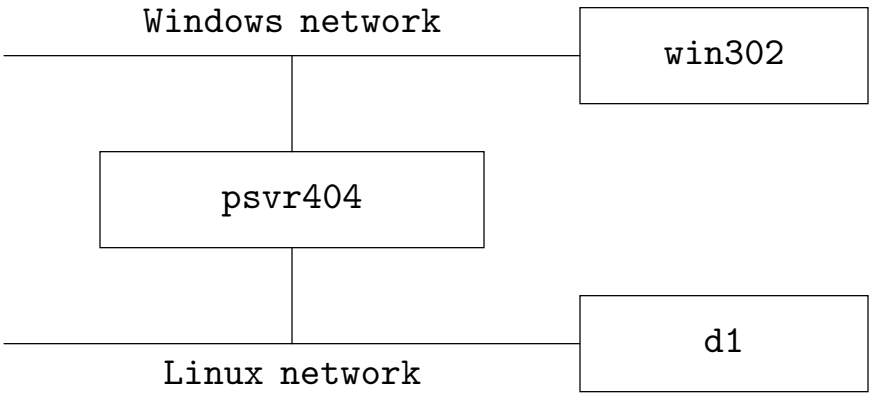
Chapter 19
Application Gateways

Concept: Make available internet capabilities on a non-internet machine.

General concept: Make capabilities on one network available on a different network.

Application Gateway: runs on a machine "attached" to both networks.
Transfers client requests from one network to a server on another network.

Gateway software:
must handle protocols on two networks
must recognize which requests need to be gateway'd
If the application requires security (private data base), it should worry about security



File requests from `win302` can be served using files on `d1`.

From `win302`: Windows format for a file request
`win302` sends this request to `psvr404`.
`psvr404` gets this request
it knows this request is for a file from the Unix server
so it converts it to Network File System request
sends it to `d1`.

`d1`: gets an NFS request
`d1` sends the data to `psvr404`.
`psvr404` gets this data.
`psvr404` knows the data is for a Windows machine
so it converts the data into Windows format and
sends it `win302`.

Result: your Unix home directory appears as the `Z:` drive.

Application Gateways versus Tunneling

Tunneling:

Uses a foreign network to connect two similar networks.

The information passes through the foriegn network.

Foriegn network doesn't need to understand the data

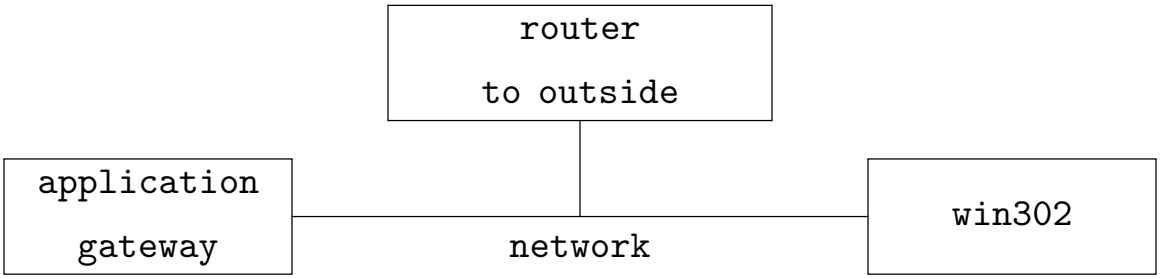
Application Gateways:

you interact with a client/server that uses foreign protocol.

Gateway needs to understand both protocols.

Must be able to translate requests and replies between two protocols

The Extra Hop



The application sends from minty to the application gateway.

The application gateway converts format and sends to the router

The request/data has made two trips (hops) down the cable.

Application Gateways

One application can use another.

Example: database access can be accomplished using http.

Example: The client needs to get some student data.

1) The client makes an http request.
2) The http server converts the request into a database request and sends it to the database server.
3) The http server formats the database server's response into html and sends it back to the client.

Note:
The client/user doesn't need to know how the retrieval is done.