Authentication by Passwords: Introduction and Storage Techniques

Prof. Ravi Sandhu
Executive Director and Endowed Chair

Lecture 12-1

ravi.utsa@gmail.com
www.profsandhu.com

Authentication Techniques

Authentication

Something you know	Something you have	Something you are
password	smartphone	fingerprint
“secret” questions	registered device	iris
		keyboard dynamics
		signature dynamics

Authentication Techniques

Authentication

Something you know	Something you have	Something you are
password “secret” questions	smartphone registered device	fingerprint iris keyboard dynamics signature dynamics

single factor → **multi factor**

Phishing

Personalized image to authenticate webserver to user

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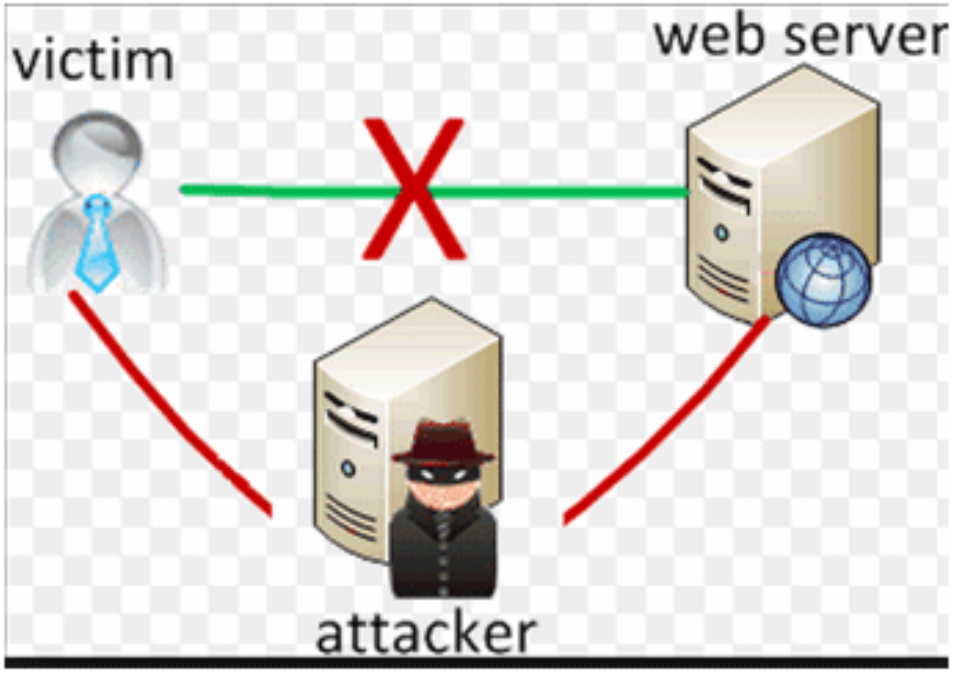
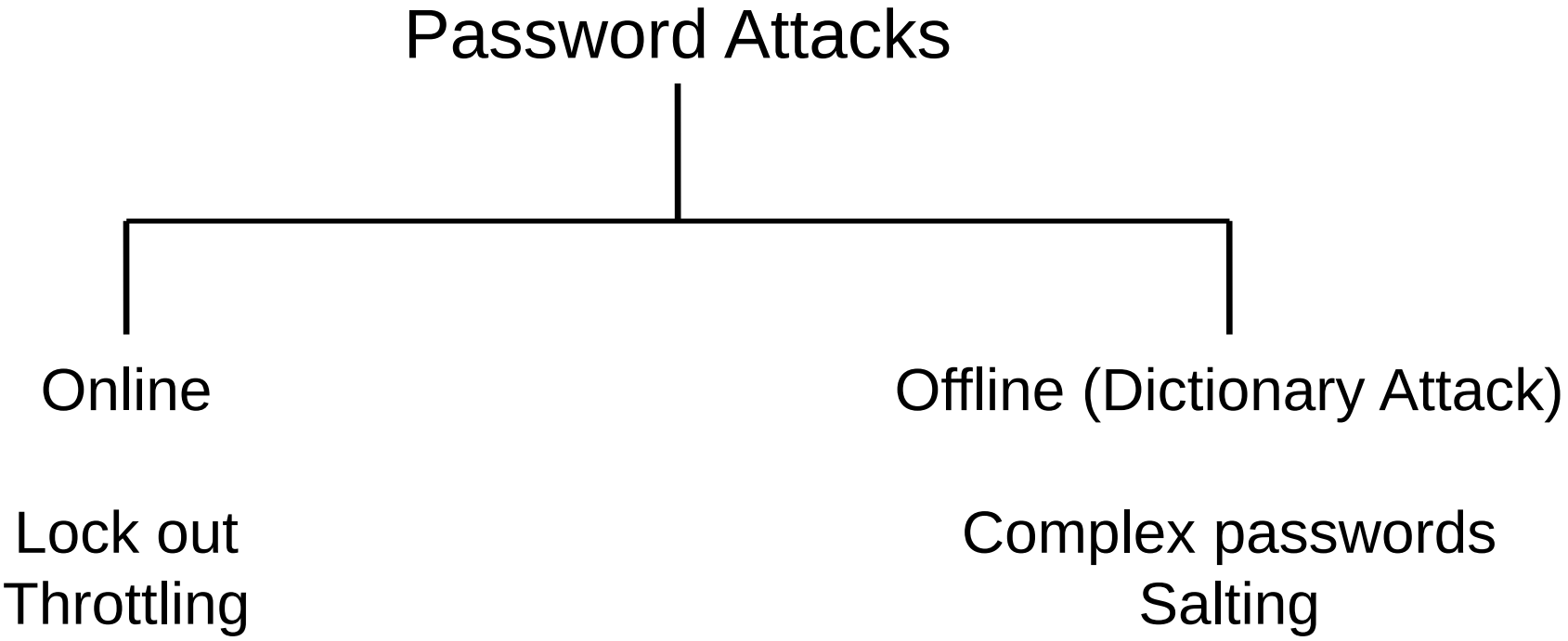
Phishing Man in the Middle



Personalized image passed through

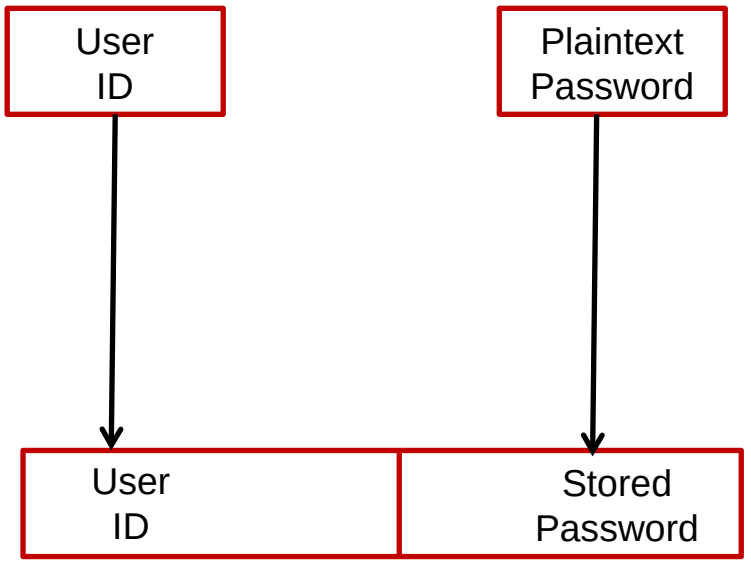
© Ravi Sandhu

Password Attacks

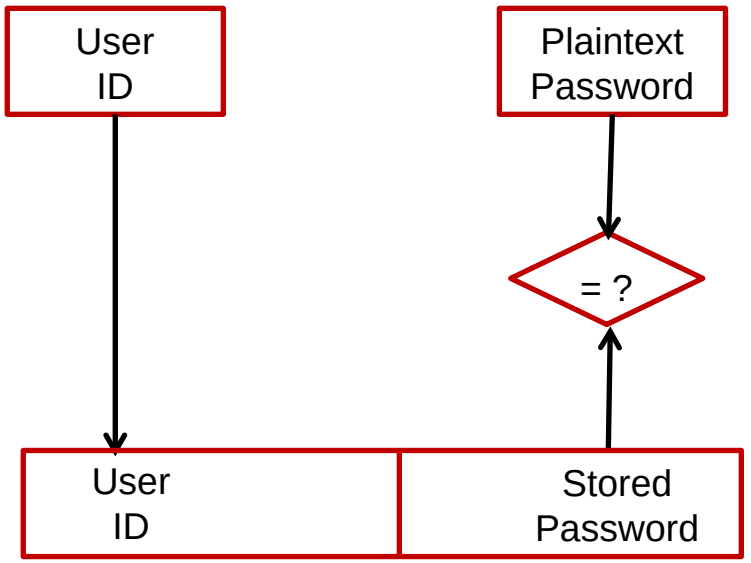


Password Storage and Verification

Password Storage



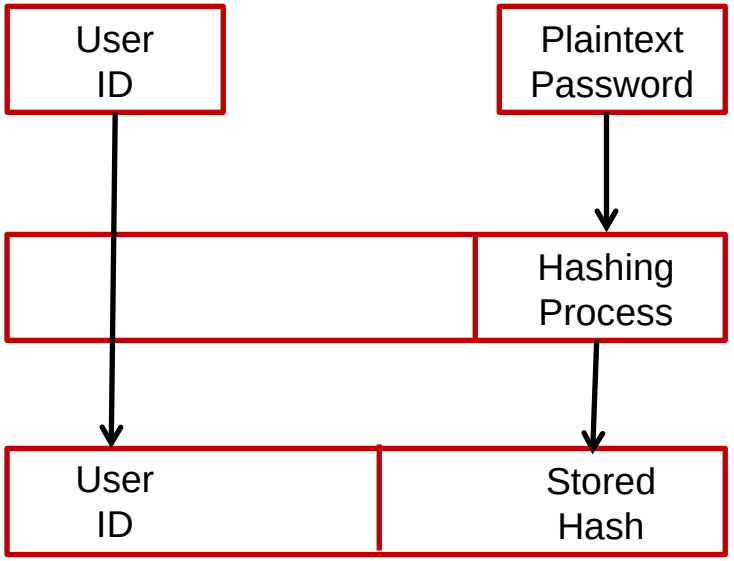
Password Verification



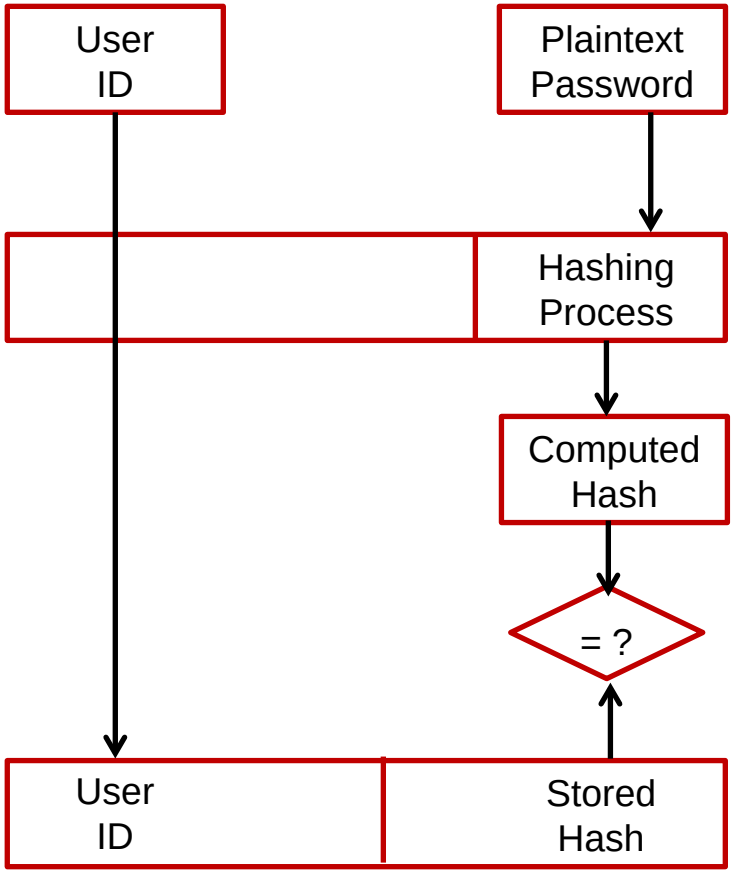
Loss of stored passwords = Catastrophic failure

Password Storage and Verification

Password Storage



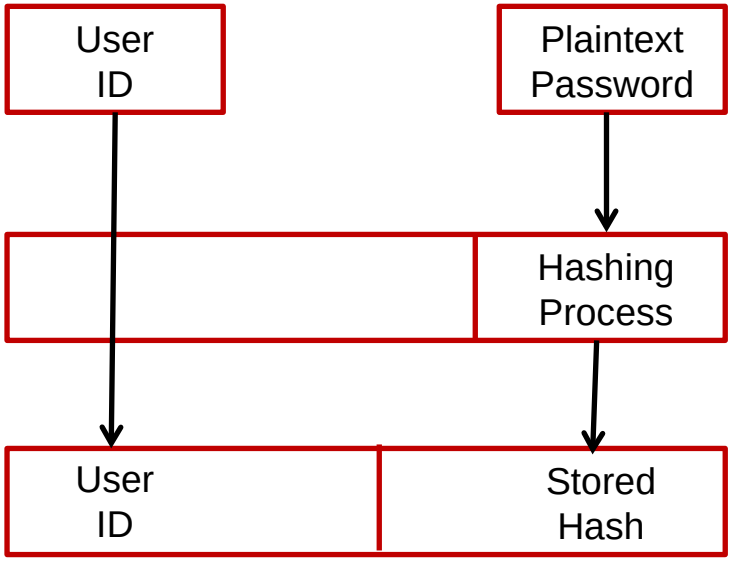
Password Verification



Loss of stored hashes = Attack by single dictionary

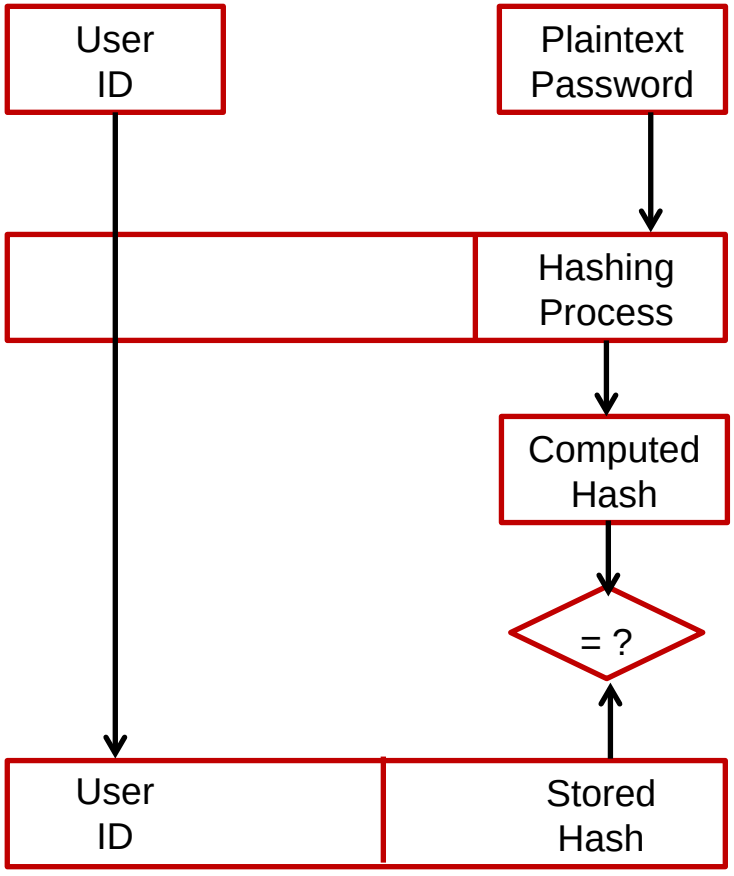
Password Storage and Verification

Password Storage



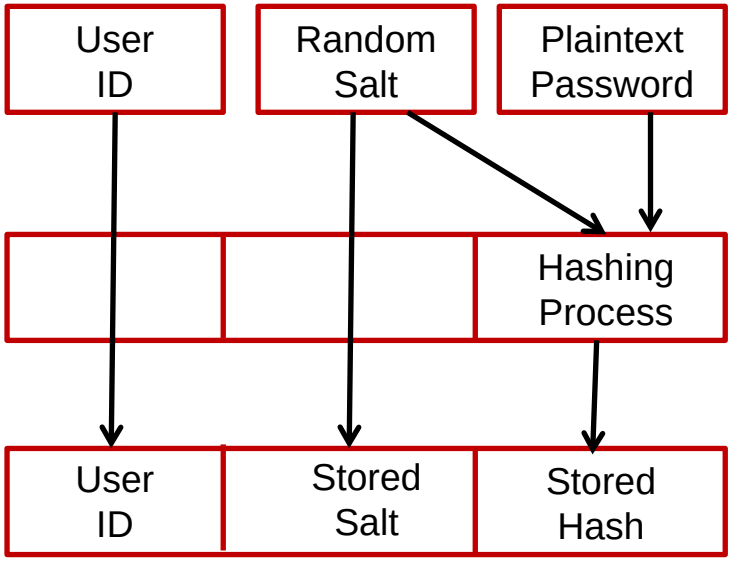
Loss of stored hashes =
Attack by single dictionary

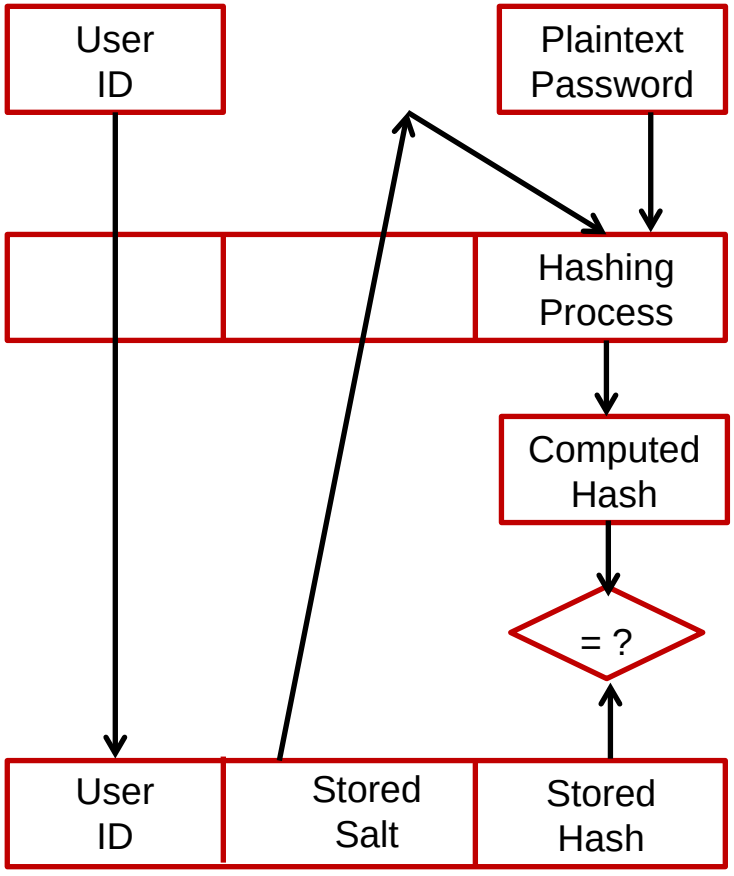
Password Verification



Password Storage and Verification

Password Storage



Loss of stored hashes =
Attack by different dictionary
for each salt value

Password Verification