

## Tips for selecting password length

Here is an estimate of the time required for an exhaustive password search attack, when the password is a random sequence of lowercase Latin letters.

We suppose that one user can check 10 passwords per second and an organization with a budget of about \$1 billion can check 10 billion passwords per second. We also suppose that the processor in use doubles its performance every two years; so, each additional Latin letter of a long password adds about 9 years to an exhaustive key search attack.

The result is this estimate of the time to succeed in an attack:

<b>Password Length</b>	<b>Single User Attack</b>	<b>Organization Attack</b>
1	2 s	1 s
2	1 min	1 s
3	30 min	1 s
4	12 hours	1 s
5	14 days	1 s
6	1 year	1 s
7	10 years	1 s
8	19 years	20 s
9	26 years	9 min
10	37 years	4 hours
11	46 years	4 days
12	55 years	4 months
13	64 years	4 years
14	73 years	13 years
15	82 years	22 years
16	91 years	31 years
17	100 years	40 years