Dear Sir/Ma'am,

I, *Joseph Martinez* has conducted an **External Vulnerability Assessment** to audit the security posture of stored passwords for on-premise infrastructure. A conclusion can be drawn that there are several weaknesses in your company's password policy, so I came up with the solution for changes in your password policies.

After further analysis, the passwords cracked were using **MD5**, which is an algorithm still widely used but cryptographically flawed as it is prone to collisions. It is relatively easy to crack the passwords using **Hashcat**, public wordlists such rockyou.txt, and even websites like CrackStation. Therefore, a very strong password encryption mechanism should be used to create hashes based on **SHA**, **Salted MD5**, **RIPEMD-320** and/or **Whirlpool** should be used instead.

List of vulnerabilities that were found in the organization's password policy:
- Minimum password length is 6 characters.
- No rule of using symbols, capital letters, and numbers at a time.
- Weak passwords which are already present in the breached password wordlist.

Password improvement guidelines based on NIST SP 800-63B:
- Passwords must be at least 8 characters long.
- Avoid personal information, specifically one's real name, username or one's company name.
- Use different passwords for each account accessed.
- Should contain different characters including: uppercase, lowercase letters, numbers and characters.

Assessment Results:

Password Hash	Hashing Type	Result
e10adc3949ba59abbe56e057f20f883e	md5	123456
25f9e794323b453885f5181f1b624d0b	md5	123456789
d8578edf8458ce06fbc5bb76a58c5ca4	md5	qwerty
5f4dcc3b5aa765d61d8327deb882cf99	md5	password
96e79218965eb72c92a549dd5a330112	md5	111111
25d55ad283aa400af464c76d713c07ad	md5	12345678
e99a18c428cb38d5f260853678922e03	md5	abc123
fcea920f7412b5da7be0cf42b8c93759	md5	1234567
7c6a180b36896a0a8c02787eeafb0e4c	md5	password1
6c569aabbf7775ef8fc570e228c16b98	md5	password!
3f230640b78d7e71ac5514e57935eb69	md5	qazxsw
917eb5e9d6d6bca820922a0c6f7cc28b	md5	Pa$$word1
f6a0cb102c62879d397b12b62c092c06	md5	bluered
9b3b269ad0a208090309f091b3aba9db	Unknown	Not found.
16ced47d3fc931483e24933665cded6d	Unknown	Not found.
1f5c5683982d7c3814d4d9e6d749b21e	Unknown	Not found.
8d763385e0476ae208f21bc63956f748	Unknown	Not found.
defebde7b6ab6f24d5824682a16c3ae4	Unknown	Not found.
bdda5f03128bcbdfa78d8934529048cf	Unknown	Not found.

Color Codes: Green: Exact match, Yellow: Partial match, Red: Not found.