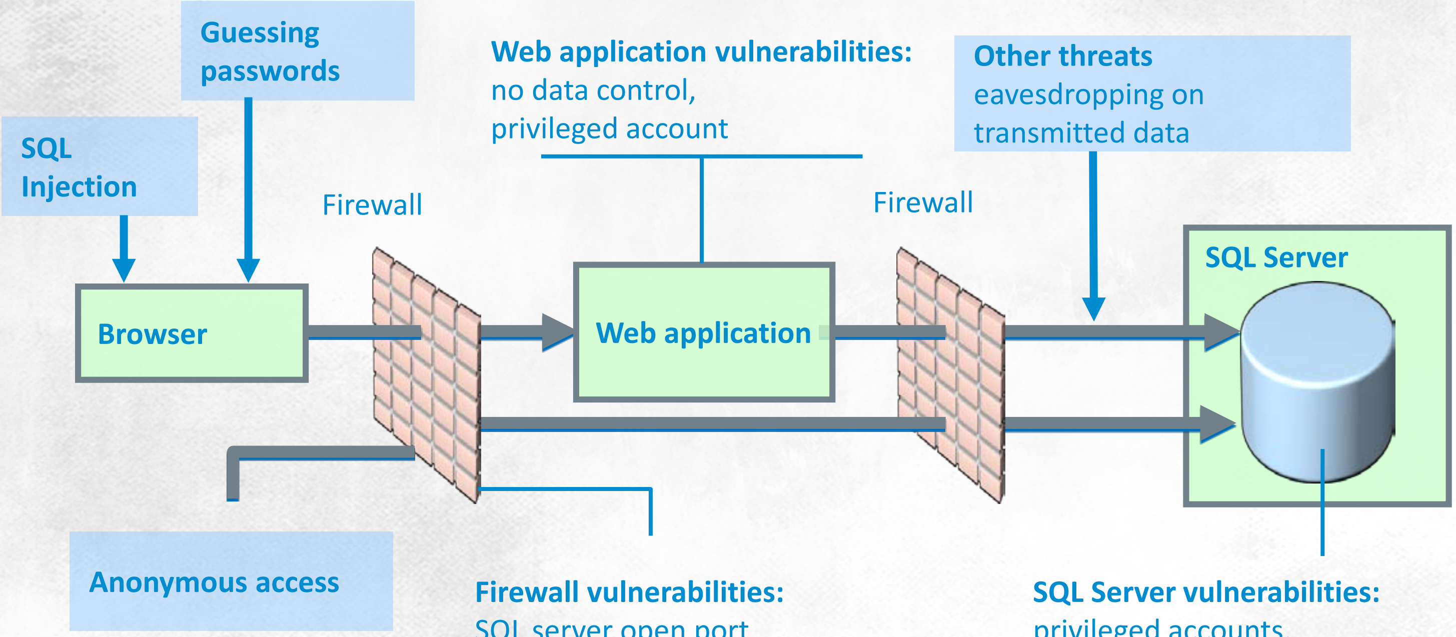
Program security assessment

Unsafe programs

By and large, administrators cannot fix insecure programs that run in their networks: all they can do is report the problem to software vendors and hope they will respond with a security patch



SQL Server vulnerabilities:
privileged accounts,
weak passwords, no auditing

Unsafe Programs

Embedding passwords in code

Fundamental errors of this type are still a reality even in newly released software

If a password is permanently stored inside an application code, it is extremely hard to change and quite easy to intercept

Even if a program uses this embedded info internally, there are widely available tools that can make it easy for an attacker obtain these passwords

```
int VerifyAdmin(char *password) {
if (strcmp(password, "TR45jhNM<1s!")) {
printf("Incorrect Password!\n");
return(0)
}
printf("Entering Diagnostic Mode...\n");
return(1);
}
```

Unsafe programs

Generic, default or blank passwords

If your manual reads: "After installation, your administrator password is QWECD$%#" or "Please submit sa as username and KJH*(&tf as password and click OK", or if you call a software support centre and are told the default admin password is JKLHUIY4, you should change all the passwords this program uses right away

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Default Passwords

461 vendors, 1895 passwor

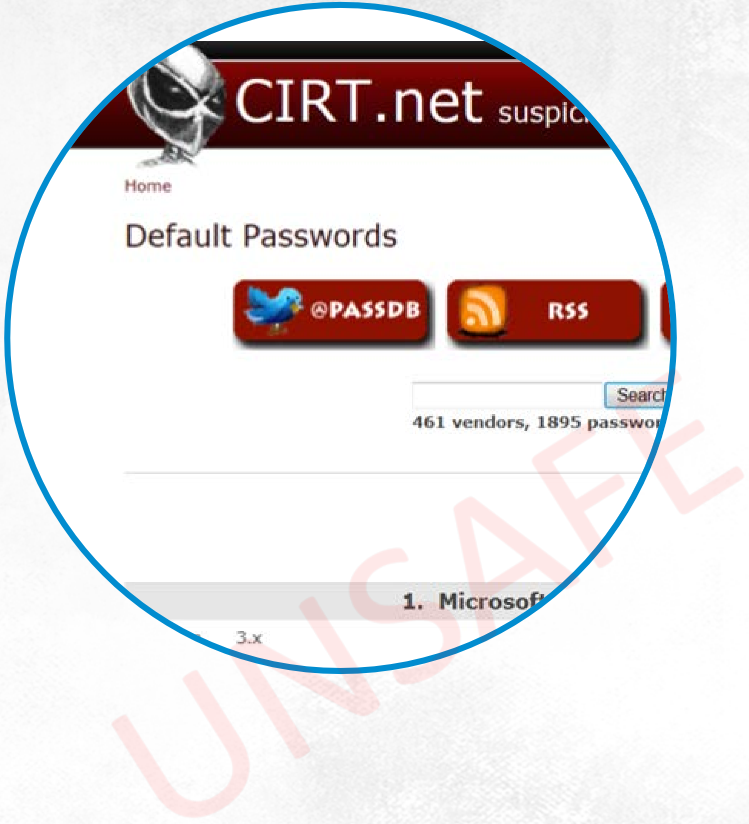
1. Microsof

3.x

Unsafe programs

Generic, default or blank passwords

Until you make sure to do this, what you have on your hands is a program that may be handling and processing confidential, critical data that everyone who's bought the same application knows the password to



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Unsafe programs

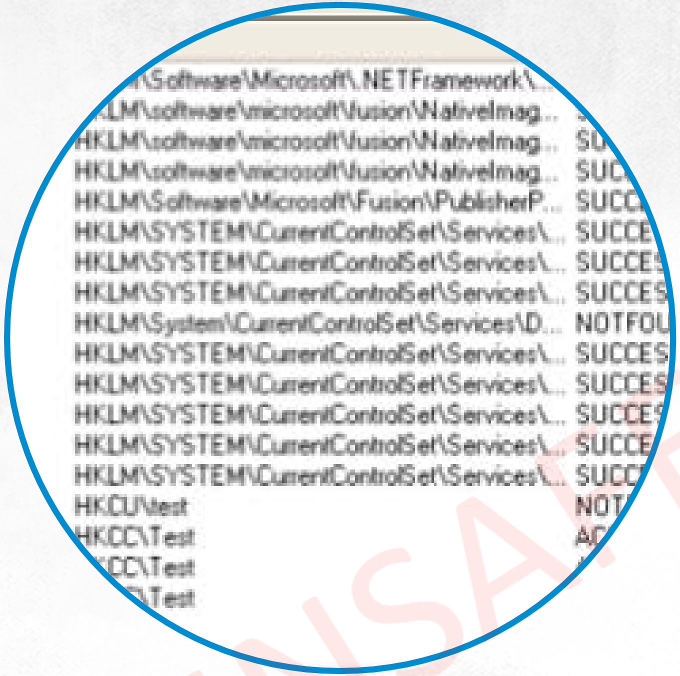
Requiring admin privileges

Some applications may not run, or at least may not run correctly, when launched by standard users

Most of these problems occur as a consequence of failed attempts to load a file, folder or system registry

If the vendor doesn't plan to release a fix, you can modify the rights to the objects the program uses by yourself:

- Launch a registry monitoring program (RegMon), a process monitor (FileMon) and the faulty application
- Capture a failed access attempt the application makes
- Grant standard users privileges to the objects used by the application

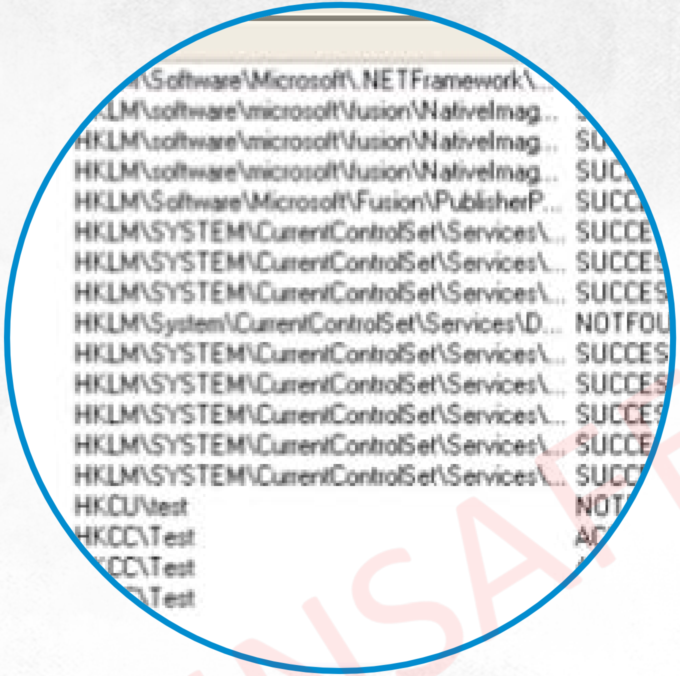


```
\Software\Microsoft\.NETFramework\...
LM\software\microsoft\fusion\NativeImag...
HKLM\software\microsoft\fusion\NativeImag...   SU
HKLM\software\microsoft\fusion\NativeImag...   SUC
HKLM\Software\Microsoft\Fusion\PublisherP...   SUCC
HKLM\SYSTEM\CurrentControlSet\Services\...     SUCCE
HKLM\SYSTEM\CurrentControlSet\Services\...     SUCCES
HKLM\SYSTEM\CurrentControlSet\Services\...     SUCCES
HKLM\System\CurrentControlSet\Services\D...    NOTFOU
HKLM\SYSTEM\CurrentControlSet\Services\...     SUCCES
HKLM\SYSTEM\CurrentControlSet\Services\...     SUCCES
HKLM\SYSTEM\CurrentControlSet\Services\...     SUCCES
HKLM\SYSTEM\CurrentControlSet\Services\...     SUCCE
HKLM\SYSTEM\CurrentControlSet\Services\...     SUCC
HKCU\test                                      NOT
HKCC\Test                                      AC
KCC\Test
\Test
```

Unsafe programs

Requiring admin privileges

```
HANDLE hFile;
hFile = CreateFile("MYFILE.TXT",           // open MYFILE.TXT
          FILE_ALL_ACCESS,        // Full control
          FILE_SHARE_READ,        // share for reading
          NULL,                   // no inheritance
          OPEN_EXISTING,          // existing file
          FILE_ATTRIBUTE_NORMAL,  // normal file
          NULL);                  // no attr. template
```



```
\Software\Microsoft\.NETFramework\...
KLM\software\microsoft\fusion\NativeImag...
HKLM\software\microsoft\fusion\NativeImag...  SU
HKLM\software\microsoft\fusion\NativeImag...  SUC
HKLM\Software\Microsoft\Fusion\PublisherP...  SUCC
HKLM\SYSTEM\CurrentControlSet\Services\...   SUCCE
HKLM\SYSTEM\CurrentControlSet\Services\...   SUCCES
HKLM\SYSTEM\CurrentControlSet\Services\...   SUCCES
HKLM\System\CurrentControlSet\Services\D...  NOTFOU
HKLM\SYSTEM\CurrentControlSet\Services\...   SUCCES
HKLM\SYSTEM\CurrentControlSet\Services\...   SUCCES
HKLM\SYSTEM\CurrentControlSet\Services\...   SUCCES
HKLM\SYSTEM\CurrentControlSet\Services\...   SUCCE
HKLM\SYSTEM\CurrentControlSet\Services\...   SUCC
HKCU\test                                     NOT
HKCC\Test                                     AC
KCC\Test
\Test
```

UNSAFE

Unsafe programs

OS update incompatibility

If you find the following info in an application’s documentation, this program is absolutely a big threat to the security of the entire system:

- Our engineering has not got chance to test these updates so they are not supported. If the customer is in urgent need to install these updates, I suggest you to set up a test system and try it.
- There are known problems with the program after you install the security update outlined in KB XYZ
- You can no longer use feature X after installing Service Pack 3

Unsafe programs

OS update incompatibility

The best solution here is to stop using these programs, at least until the vendors realise that exposing clients to danger is a financially risky practice

Windows XP SP3 and Office 2003
Support Ends April 8, 2014

THANKS