PRESS REVIEW ARCHIVE

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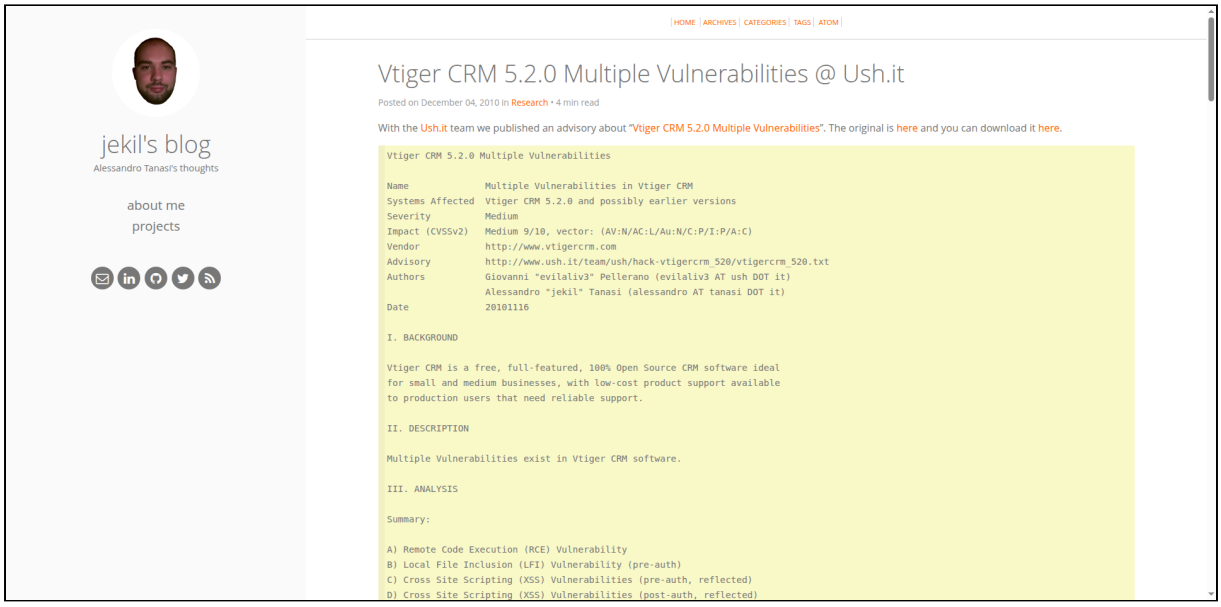
Page Screenshot



Vtiger CRM 5.2.0 Multiple Vulnerabilities @ Ush.it

Posted on December 04, 2010 in Research • 4 min read

With the Ush.it team we published an advisory about "Vtiger CRM 5.2.0 Multiple Vulnerabilities". The original is here and you can download it here.

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Vtiger CRM 5.2.0 Multiple Vulnerabilities

Name              Multiple Vulnerabilities in Vtiger CRM
Systems Affected  Vtiger CRM 5.2.0 and possibly earlier versions
Severity          Medium
Impact (CVSSv2)   Medium 9/10, vector: (AV:N/AC:L/Au:N/C:P/I:P/A:C)
Vendor            http://www.vtigercrm.com
Advisory          http://www.ush.it/team/ush/hack-vtigercrm_520/vtigercrm_520.txt
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Date              20101116

I. BACKGROUND

Vtiger CRM is a free, full-featured, 100% Open Source CRM software ideal
for small and medium businesses, with low-cost product support available
to production users that need reliable support.

II. DESCRIPTION

Multiple Vulnerabilities exist in Vtiger CRM software.

III. ANALYSIS

Summary:

A) Remote Code Execution (RCE) Vulnerability
B) Local File Inclusion (LFI) Vulnerability (pre-auth)
C) Cross Site Scripting (XSS) Vulnerabilities (pre-auth, reflected)
D) Cross Site Scripting (XSS) Vulnerabilities (post-auth, reflected)

A) Remote Code Execution (RCE) Vulnerability

A Remote Code Execution vulnerability exists in Vtiger CRM version 5.2.0.
In order to exploit this vulnerability an account on the CRM system is required.

The vulnerability resides in the "Compose Mail" section. The software
permits sending email with attachments and offers a draft save feature.
When this feature is used and an attachment is specified, the
"sanitizeUploadFileName($fileName, $badFileExtensions)" validation routine
is called.

This routine involves some security checks to handle uploaded files, it
does blacklist extension checking and if a bad extension is detected the
txt extension is appended to the file-name.

The blacklist array, defined inside config.inc.php, lacks the "phtml" extension,
well known to be supported by some distributions and packaging, allowing an
attacker to execute the uploaded file and causing the vulnerability.

Below is the blacklist array defined in config.template.php:

--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--
```

```
112: $upload_badext = array('php', 'php3', 'php4', 'php5', 'pl', 'cgi', 'py',
 'asp', 'cfm', 'js', 'vbs', 'html', 'htm', 'exe', 'bin', 'bat', 'sh', dll',
 'phps');

--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--

For the exploitation methodology for this issue we remand to [1], a
previous advisory of ours.

B) Local File Inclusion (LFI) Vulnerability (pre-auth)

A Local File Inclusion vulnerability exists in Vtiger CRM version 5.2.0.
The vulnerability can be exploited by unauthenticated users.

The vulnerability is present due to insecure statements in the script
phprint.php that forward unfiltered user inputs directly to an include()
function call.

Below are the insecure statements in phprint.php:

--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--

61: $lang_crm = (empty($_GET['lang_crm'])) ? $default_language : $_GET['lang_crm'];
62: $app_strings = return_application_language($lang_crm);

--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--

Where the function return_application_language() is defined in
include/utils/utils.php as follows:

--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--

427: function return_application_language($language)
428: {
/.../

435:    @include("include/language/$language.lang.php");

   /.../
464: }

--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--

The same issue is also present in graph.php:

--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--

47: if(isset($_REQUEST['current_language']))
48: {
49:        $current_language = $_REQUEST['current_language'];
50: }
51:
52: // retrieve the translated strings.
53: $app_strings = return_application_language($current_language);

--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--

The two vulnerable flaws can be triggered, for example, using:

--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--

curl -kis "http://127.0.0.1/vtigercrm/phprint.php?lang_crm=/../[..]/../
etc/passwd%00&module=a&action=a&activity_mode=

curl -kis "http://127.0.0.1/vtigercrm/graph.php?current_language=/../[..]/../
etc/passwd%00&module=Accounts&action=Import&parenttab=Support"

--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--

C) Cross Site Scripting vulnerabilities (pre-auth, reflected)

A reflected XSS vulnerability exists in Vtiger CRM version 5.2.0.
The vulnerability can be exploited against unauthenticated users only.

The vulnerability is present on the login form, and can be triggered
using these inputs:

- username:  " onmouseover="javascript:alert('XSS');
- password:  " onmouseover="javascript:alert('XSS');
```

PoC URL that exploits this vulnerability:

--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--

http://127.0.0.1/vtigercrm/index.php?module=Users&action=Login&default_user_name
=%22%20onmouseover=%22javascript:alert('XSS');

--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--

D) Cross Site Scripting (XSS) Vulnerabilities (post-auth, reflected)

A reflected XSS vulnerability exists in Vtiger CRM version 5.2.0.
The vulnerability can be exploited against authenticated users only.

The vulnerability is present due to insecure statements in the script
modules/Settings/GetFieldInfo.php that reflect unfiltered user inputs
inside the page output.

PoC URL that exploits this vulnerability:

--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--

http://127.0.0.1/vtigercrm/index.php?module=Settings&action=GetFieldInfo&label
=%3Cscript%3Ealert(123)%3C/scrip%3E

--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--8<--

IV. DETECTION

Vtiger CRM 5.2.0 and possibly earlier versions are vulnerable.

Vtiger CRM can be identified using the following google dork:

- intitle:"vtiger CRM 5 - Commercial Open Source CRM"

V. WORKAROUND

No fix available.

VI. VENDOR RESPONSE

"We were able to reproduce the issues you reported on 5.2,
and are working on releasing a security update shortly.
We expect to release this update within the next 3 to 4 weeks,
after running some more tests."

VII. CVE INFORMATION

CVE-2010-3909 [A]
CVE-2010-3910 [B]
CVE-2010-3911 [C, D]

VIII. DISCLOSURE TIMELINE

20101009 Bugs discovered
20101012 First vendor contact
20101012 Vendor response (Sreenivas Kanumuru)
20101012 Contacted Steven M. Christey (mitre.org)
20101012 CVEs assigned by Steven M. Christey
20100102 Vtiger CRM team confirms vulnerability (Sreenivas Kanumuru)
20101015 Advisory release scheduled for 20101115
20101116 Advisory released

IX. REFERENCES

[1] Vtiger CRM 5.0.4 Multiple Vulnerabilities
http://www.ush.it/team/ush/hack-vtigercrm_504/vtigercrm_504.txt

X. CREDIT

Giovanni "evilaliv3" Pellerano, Alessandro "jekil" Tanasi are credited
with the discovery of this vulnerability.

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XI. LEGAL NOTICES

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