

]HackingTeam[

RCS Exploit Portal

Whitepaper

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1 Overview

The majority of software applications contain a certain number of defects that can be *exploited* to take control of the software itself in order to install unwanted applications.

Relying on those flaws, it's possible to turn normal documents into installation vectors for RCS, adding a new way of starting investigations to the selection proposed by HackingTeam.

HackingTeam Exploit Portal is a service that used together with the Remote Control System allows for easy embedding of RCS agents into most of the common file formats: *Adobe Pdf*, *Microsoft PowerPoint* and *Word documents*, just to give a few examples.

Once opened on the target computers, the document carrying the exploit will install an RCS agent.

2 The Service

Exploits normally require a high skill level to be used, and that may not be readily available. HackingTeam combined its expertise in offensive security and software design to build a service that simplifies the usage of exploits as installation vectors for RCS agents.

2.1 What is an exploit?

An exploit is a piece of code that can be injected into flawed software to take control of it.

In the layman view, exploits are seen as black magic: some obscure piece of code written by hackers and usable only by them.

2.2 Why a Portal?

HackingTeam, with the Exploit Portal, took away all of the difficult part of using exploits and made them easy.

HackingTeam Exploit Portal is a repository of client side exploits ready to be used. Each exploit available is selected by HackingTeam to be effective against common application software, such as web browsers and office applications.

The exploit repository resides on HackingTeam's servers and can be easily accessed from within the RCS Console.

The screenshot shows a web interface for the HT Exploit Library. At the top, it says "Exploit" and "HT Exploit Library subscription details:". Below this, it shows "Expiry date: 2015-12-31" and "Category level: zeroday".

There is a section titled "Select the exploit you want to use:" with three dropdown menus: "Platform:" set to "WIN32", "Format:" set to "all", and "Category level:" set to "all". Below these is a larger dropdown menu for "Exploit:" which is currently set to "Acrobat Reader 9.2/9.3 'authplay.dll' Code Execution Vulnerability".

Below the exploit selection, there is a "Params:" field with a text input box containing "URL".

Further down, it shows "Category level: private" and "HT code: HT-2010-031".

The "Description:" section contains the following text: "A vulnerability has been identified in Adobe Reader and Acrobat, which could be exploited by remote attackers to compromise a vulnerable system. This issue is caused by a memory corruption error in the authplay.dll library when processing a PDF document including malformed Flash content, which could be exploited by attackers to execute arbitrary code by tricking a user into opening a specially crafted PDF file."

A "Note:" follows: "You should provide an open HTTP web server from which the backdoor will be downloaded by the exploit. Put the exe in the http repo and send the pdf file to the target".

Below the note, it lists "Platform: Windows" and "CVE ID: CVE-2010-1297".

The "Tested with:" section lists "Windows XP sp3".

At the bottom of the form, there are two buttons: "Create" and "Close".

A status bar at the very bottom of the window displays the message: "Successfully connected to the HT Exploit portal."

Each time an operator access the Exploit Portal, the Console downloads the updated exploit list and allows the creation, on the customer RCS system, of documents containing RCS agent.

NOTE Since exploits base their effectiveness upon software flaws, the list of available exploits may change at any time, therefore at any time supported file formats may vary.

2.3 Exploit Categories

Each of the available exploits is rated depending on a specific set of parameters.

RCS Exploit Portal organizes exploits in categories, each one specifying a different availability level of the exploit, and the related software flaw, among application vendors and security experts.

As an example, for exploits categorized as public the software flaw they base upon are known, probably already patched and the raw exploits code is publicly available. This means that probably the effectiveness of this kind of exploit is not the best, but they still work and probably are still common among users of the flawed application.

HackingTeam organizes exploits in four categories:

Category	Description
Social	This category of exploits do not rely on specific software flaws, but on the user errors in using the documents. For example, a user opens an executable file believing it's a PDF document, since the original file extension is hidden by Windows.
Public	For public exploits, the software flaw is known and maybe it's also patched for the latest versions of the application. The exploit code is publicly available on the Internet.
Private	The exploit is built relies on a known vulnerability, but there is no publicly available exploit code. Vendors may have patched the flaw but no technical information is available, so writing an exploit is a difficult task.
Zero-day	The exploit is built relies on an unknown vulnerability, not even by the vendor of the application, thus no exploit code is available. These are the most powerful exploits since even the latest versions of the software are flawed.

This categorization permits you to have a wide selection of usable exploits all the time targeting different software. Moreover, depending on the specific scenario you're confronting with, you may want to preserve private or zero-day exploits as last resorts, and feel free to use social and public with less concern.

NOTE The Exploit Portal always contain at least three zero-day level exploits.