Bypassing of web filters by using ASCII

Bypassing of web filters by using ASCII - Kurt Huwig, securityfocus.com.

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Content

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Bypassing of web filters by using ASCII (4 replies)

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iKu Advisory

Product : Microsoft InternetExplorer 6

: various filter applications

Date : June 20th 2006

Affected versions : all

Vulnerability Type : bypassing security filters

Severity (1-10) : 10

Remote : yes

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1. problem description

The character set ASCII encodes every character with 7 bits. Internet connections transmit octets with 8 bits. If the content of such a transmission is encoded in ASCII, the most significant bit must be ignored. Of the tested browsers Firefox 1.5, Opera 8.5 and InternetExplorer 6, only the InternetExplorer does this correctly, the others evaluate the bit and display the characters as if they were from the character set ISO-8859-1. Although the behaviour of the InternetExplorer is the correct one, this creates a security risk: the author of a web page can set the bit on arbitraty characters without changing the look of the page. But virus scanners and content filters see completely different characters, so that there programs cannot detect viruses or spam. This offers spammers and virus writers the possibility to bypass installed spam and virus filters.

1. affected software

Only the InternetExplorer displays ASCII encoded web pages as 7 bit. We checked several hardware router and antivirus solutions, all of which failed to detect malicious JavaScript in manipulated web pages.

1. bug description/possible fix

It should be quite easy to close this hole within filter/scan applications by clearing the most significant bit on ASCII encoded web pages before analysing them.

1. sample page

At

http://www.iku-ag.de/ASCII

you can find a test page that displays a secret message. IE6 displays the text correctly, Firefox 1.5 and Opera 8.5 display glibberish text. This page only shows that IE6 displays ASCII-text correctly and does not contain any content that a filter should sort out.

Updated information can be found at

http://www.iku-ag.de/sicherheit/ascii-eng.jsp

1. workaround

There is no workaround know to us.

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Kurt Huwig iKu Systemhaus AG http://www.iku-ag.de/ Vorstand Am Römerkastell 4 Telefon 0681/96751-0 66121 Saarbrücken Telefax 0681/96751-66 GnuPG 1024D/99DD9468 64B1 0C5B 82BC E16E 8940 EB6D 4C32 F908 99DD 9468

[[reply]](http://www.securityfocus.com/archive/reply/1/437948)

Re: Bypassing of web filters by using ASCII

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Re: Bypassing of web filters by using ASCII (2 replies)

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Re: Bypassing of web filters by using ASCII

Re: Bypassing of web filters by using ASCII (1 replies)

Re: Bypassing of web filters by using ASCII (3 replies)

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