Mr. Dube H.V. , DR. Sagar Jambhorkar / International Journal of Engineering Research and Applications (IJERA) ISSN: 2248-9622 www.ijera.com
Vol. 2, Issue 4, July-August 2012, pp.162-163

"MD5 security Algorithm is more effective in File Upload Application"

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Abstract

Security is a most important issue for confidential data. Database/MD5 method (algorithm) is used for store data base and Password protects our database by unhurried person and hacker. Security is needed for user authentication and access control over the internet. Through this paper, an attempt is made to focus the security issues used in Upload the data and Download the data on internet.

Keyword used: Web Server, Web service, Encryption, Hacker, Decryption, Upload, Download, Public key, Private Key, Symmetric Key, Asymmetric Key.

Introduction

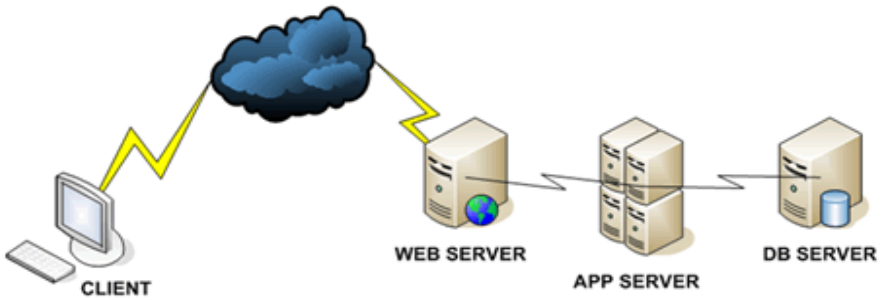
Uploaded files represent a significant risk to applications. The first step in many attacks is to get some code to the system to be attacked. Then the attack only needs to find a way to get the code executed. Using a file upload helps the attacker accomplish the first step.

The consequences of unrestricted file upload can vary, including complete system takeover, an overloaded file system, forwarding attacks to backend systems, and simple defacement. It depends on what the application does with the uploaded file, including where it is stored.

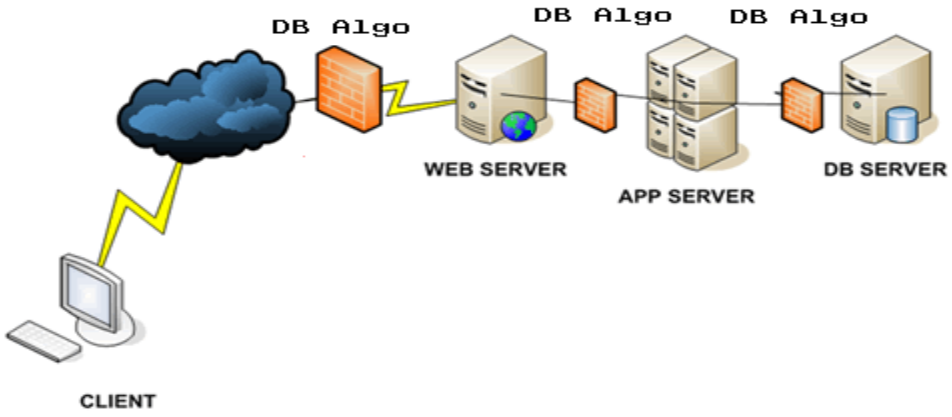
There are really two different classes of problems here. The first is with the file metadata, like the path and filename. These are generally provided by the transport, such as HTTP multipart encoding. This data may trick the application into overwriting a critical file or storing the file in a bad location. You must validate the metadata extremely carefully before using it.

Methodology:

- **Security Architecture for Multi-Tier Applications**



Multi-tier applications first emerged as a way of solving some of the problems associated with the traditional client/server applications, but with the arrival of the Web, this architecture has dominated he development world. A schematic representation of the architecture is as follows:
The introduction of network security into this architecture will see the insertion of firewalls at different entry points. Firewalls are placed in order to regulate access to each of the above mentioned servers. The simplest and most uncomplicated thing to do would be to place a firewall between each of the servers and control access to them. The question is does this solution work?



1. Traffic between the Client and the Web Server is most likely to be HTTP on Port 80. It is imperative that database algorithms be placed between the Client and the Web Server; this
will allow access only to the HTTP service and block access to the other services running on the server.
2. Traffic between the Web Server and the Application Server could either be on HTTP or some Custom Port. Here again, placing a database algorithms makes sense, as the traffic needs to be controlled between the Web Server and Application Server and should be allowed only on specific application ports and not operating system ports.
3. Traffic between the Application Server and the Database server would most likely be on a SQL Port. This is where a database algorithms does not necessarily add value, because in order to obtain data from the database, no special ports are required – the authorized SQL port can be used by anyone(authorized and unauthorized) to get data from the database. We'll see how this is possible below.

For a serious attacker or malicious user to exploit a server, his end goal would be to obtain information that is stored on the database. For example, the database of an online banking site would contain, customer information, address details, accounts numbers, credit card numbers etc. Obtaining this information is extremely valuable to an attacker. Let's see how far the attacker needs to go to obtain this information. Let's say for instance, the web server has a vulnerability that the attacker has been able to exploit. This has in turn given him shell access. Now, he looks at conquering the next hop, which is the application server. Assuming that the application server has been configured poorly and he obtains the privilege username and password, he obtains shell access to this server as well. Now, he has moved even closer to the valuable data that he is seeking, the database. Does he need to obtain shell access to the database in order to obtain this data? The answer is no! All he needs is, to be able to send a database query to the database and obtain that information. Can database algorithms prevent this kind of attack? No. The query has come from a legitimate application server that would normally query the database server and this access would be allowed on the firewall rule set. This just goes to show that to prevent every security breach, the answer is not a database algorithm. There are other measures one needs to take that are beyond the scope of this article.

Another point worth considering is performance, traffic between Application Servers and Database Servers is usually quite large. This is due to the fact that the application servers query the database for information, perform the business logic and send it back to the requesting party, which is the web server. The traffic usually is quite large and a large amount of data is processed for rendering that information to the web server, usually in the range of megabytes.

- **Conclusion**

In conclusion to the above discussion, introducing database/data algorithms between application servers and the database servers improvement in database/data security. Database security encryption method (algorithm) is used for store data base and Password protects our database by unhurried person and hacker.

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