Hash Information Disclosure Via Collisions - The Hard Way ha.ckers.org web application security lab

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Hash Information Disclosure Via Collisions - The Hard Way

Every once in a while I have those discussions with id about “what I would do if I were the NSA and had no mission to accomplish.” It could also be called the overgrown “boys with toys” conversation. It typically goes off on tangents where we abuse system resources for entirely impractical applications, and this is no different. Today we started talking about the PS3 collisions stuff. Cool indeed. But what if we wanted to use something entirely unrelated to find something that’s barely worth knowing? Ahh, that’s where gigantic rainbow tables comes into play.

Every hashing algorithm has possible collisions once you allow a certain number of chars to be hashed. Let’s say you found out that “bob” and “sam” collided in whatever hashing algorithm. If you created an account on a web server with the password of “bob” and then later typed in the password of “sam” assuming no salts you would be able to get into the system. That’s not all that

interesting because you could get into your own account anyway. The vaguely more interesting fact is that you now know what hashing algorithm is being used. Rinse and repeat for every salt (random set of chars preceding, after, or XOR'd typically), every password rule variant (must have upper case, or must have special chars, etc...) and every hashing algorithm (MD5, SHA1, SHA256, double hashed because people think they're being super clever, etc...) and you have an extremely overkill way to get a very small amount of information disclosure. Yes, what a waste of taxpayer money!

The slightly less impractical implication of this is if you already had some collisions that you could use for this purpose you could attempt certain types of brute force against passwords that matched on the backend but were in fact different passwords when applied to a blacklist of typed passwords. Also, you could use these kinds of tricks for other sorts of database collisions where a primary key is a hash of some known data. What a complete waste of resources that are best used for far more interesting tasks, if you ask me. But hey - it's possible.
