

Re: Online poker RNG...

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Gerry wrote:

I'm hoping someone(s) on here will be kind enough to help ease my mind (or, for that matter, to verify my reasons for concern!) And I should say that, while I'm a good poker player, I'm only a marginal student of mathematics and computing, so keep that in mind, please, as you answer this question, but:

Is it possible that, as I'm playing online, any of the other players are cheating by way of predicting the order of the cards in the "shuffled" deck?

A few (some math, some poker) truths to keep in mind as you answer:

1. Many sites use an RNG algorithm based on 2^{32} . Isn't that pretty easily susceptible to brute-force attacks from someone who has a program relying on distributed computing?
2. In the most popular type of online poker (Texas Hold 'Em), there are four rounds of betting, and the most important three rounds come AFTER (a) each player gets two (face-down) cards and (b) three face-up cards are dealt on the table — SO, if the cheater is, say, the third player to be dealt cards at a table of ten players, then he will know the 3rd and 13th cards (i.e. the two cards he's been dealt) as well as the 21st, 22nd and 23rd cards (the three dealt face-up immediately following the two distributed to each player).

So, I guess my question is: how easily would someone be able — either by brute-force run-through of all possible combinations of "deck arrangements" with those 5 cards in those specific spots, or by some sort of reverse-engineering, or whatever — to conclude the sequence of cards in the deck (which, of course, would give him knowledge of everyone's cards, as well as the two cards left to be dealt)?

And, for that matter, a related question: there's a piece of software currently on the market (Check out pokerrng.com.) which claims that, if a player enters into the software the details of a few thousands recently dealt hands, the software will "synch" with the poker system's RNG well enough to predict three of the five cards (not

Re: Online poker RNG...

suits, but values, which is enough to be dangerous!) left to be dealt! Is this even plausible? Do I need to be afraid of this type of thing?

Anything online has inherent pitfalls, and cheating is — both online and offline — a fact of life, but there's a certain level of security I'd like, and I wonder if I'm jumping at shadows or rightly concerned...

Any thoughts would be appreciated!

FWIW, here is an opinion from a professional poker player:

Yeah, there was a problem with Planet Poker's algorithm way back in the day. Pretty much killed the site, although it's still around and hanging out despite doing very little in the way of advertising or trying to attract new players.

Online poker rooms get their motivation to keep their games honest from the fact that honest games attract tons of players and make tons of money. Party Poker's annual *profit* is in the hundreds of millions, and perhaps could exceed a billion this year. So a site can risk cheating players for a few extra bucks at the expense of being exposed and losing their ability to essentially print money as it is.

Now, this doesn't mean they're honest. Enron and Worldcom and such have proved that whenever there's money involved there's always going to be someone dishonest. But there are millions of poker players out there who've played billions of hands and the majority of them seem to think most card rooms are honest. In my opinion, they're honest "enough," meaning that if they're cheating, it certainly isn't keeping me from making money as it is.

That's larger sites, like Party or PokerStars or UltimateBet. Smaller cardrooms have the motivation to keep their games honest in order to become larger cardrooms and make tons of money like the larger sites. However, there have definitely been some smaller cardrooms that have been found to be dishonest and/or have cheated customers out of money. These have been quickly discovered and quickly blacklisted. With pokertracker tracking every hand dealt, and thousands of players convening at online poker message boards, it doesn't take long for the slightest perceived slight by a poker site to be reported to anyone and everyone. So cardrooms with dishonest shuffles or keeping players money will not last long. Believe me, every time Party Poker takes more than 24 hours to reply to someone's email, or someone loses a hand where they were a 95% favorite, I know about it.

Anyways, because of the potential problems with newer sites, I put no money on any site that isn't well established and fairly big with a decently long history without problems.

As for collusion, all the big sites have extensive collusion detection built

Re: Online poker RNG...

Re: Online poker RNG...

into their software. People have been banned from sites with their money confiscated (and, in the case of pokerstars, that money is distributed to their opponents) when caught. So while I'm sure collusion exists,

- 1) It's very hard to do profitably as it is
- 2) Colluders are often caught anyways, and this I believe deters most colluders

So I don't worry about it. I've played hundreds of thousands of hands at thousands of tables online and perhaps twice have I ever thought that maybe I'm at a table with some colluders—and I was far from certain at that. Each time I simply left the game, since there are thousands of other ones going on at any one time.

But yeah, ultimately there's no way to know for sure. Sometimes I think one cardroom screws with the odds a bit. Not a whole lot, just a bit. So if someone is a 60/40 favorite, they're really maybe 55/45. 90/10 becomes 85/15, etc. This would be hardly detectable, and keep bad players in the game playing longer, making the site more popular, and keeping it able to collect more rake. But who knows, that's probably just my own paranoia. At the end of the day I continue to play as do so many thousands of others because it's been many years and many billions of hands dealt out online and people are satisfied with the way it's been going.