

F.B.I. Director Suggests Bill for iPhone Hacking Topped \$1.3 Million

WASHINGTON — The director of the F.B.I. suggested Thursday that his agency paid at least \$1.3 million to an undisclosed group to help hack into the encrypted iPhone used by an attacker in the mass shooting in San Bernardino, Calif.

At a technology conference in London, a moderator asked James B. Comey Jr., the F.B.I. chief, how much bureau officials had to pay the undisclosed outside group to demonstrate how to bypass the phone's encryption.

"A lot," Mr. Comey said, as audience members at the Aspen Institute event laughed.

He continued: "Let's see, more than I will make in the remainder of this job, which is seven years and four months, for sure."

The F.B.I. had *been* unwilling to say anything at all until Thursday *about* how much it paid for what has *become* one of the world's most publicized hacking jobs, so Mr. Comey's cryptic comments about his own wages and the bounty quickly sent listeners scurrying in search of their calculators.

The F.B.I. director makes about \$185,100 a year — so Mr. Comey stands to earn at least \$1.35 million at that base rate of pay for the remainder of his 10-year term.

The F.B.I. *declined* to confirm or deny Thursday whether *the bureau had in fact* paid at least \$1.3 million for the hacking, *and it declined to elaborate on* Mr. Comey's suggestive remarks.

But that price tag, if confirmed, appears in line with what other companies have offered for identifying iOS *vulnerabilities*.

Zerodium, a security firm in Washington *that collects and then sells such bugs*, said last fall that it would pay \$1 million for weaknesses in Apple's iOS 9 operating system. Hackers eventually claimed that bounty. The iPhone used by the San Bernardino gunman ran iOS 9.

"A number of factors go into pricing these bounties," said Alex Rice, the co-founder of the security start-up HackerOne CTO, who also started Facebook's bug bounty program. Mr. Rice said that the highest premiums were paid when the buyer didn't intend to disclose the flaw to a party that could fix it.

"The cost of keeping a flaw secret is high," Mr. Rice said. He added that buyers like Zerodium's customers and the government might not work to fix problems.

When companies run bug bounty programs, they may pay about \$100,000 to hackers that show them system vulnerabilities that must be fixed. "When you sell at a high price, you have to be O.K. with the possibility that the person you sold the flaw to could do something bad with it," Mr. Rice said.

While Mr. Comey's remarks appeared to address the lingering mystery of how

much the F.B.I. paid to get into the San Bernardino phone, he said nothing that would indicate the actual identity of the outside group behind the hacking. Some media reports have named an Israeli software company that might have helped the F.B.I., but numerous law enforcement officials have said that company was not involved.

After an intense *courtroom* fight in Southern California, the F.B.I. disclosed three weeks ago that it had managed to get access to the data inside an iPhone 5c used by Syed Farook, one of the attackers in the San Bernardino rampage, which killed 14 people, by paying the outside group.

The Justice Department had gone to court to try to force Apple to develop a new operating system to allow access into the encrypted phone, setting off an intense national debate about privacy versus national security. But it withdrew its case after the outside party came to the F.B.I. and demonstrated a way around the phone's internal defenses, which would have destroyed the data inside after 10 failed password attempts and would have meant longer and longer intervals in between guesses.

With those mechanisms disabled, the F.B.I. was able to use what is called a brute force attack — using computers to guess vast numbers of password combinations at once — in order to get inside the phone.

But the Justice Department is still trying to force Apple in court to help unlock encrypted phones in Brooklyn, Boston and elsewhere.

Capitals

Water quality in Alabama is decent. You're now in Britain. Professor Xavier is from Marvel Comics. Mr. Obama is the Chief Executive of the United States. Foreign Heads of State often visit him. Lena Dunham stars in the hit show "Girls". Interestingly, there is no precedent to Justice Roberts' reasoning. King Taco of New Zealand is married to Queen Vitamin.

All Capitals

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Numerals and ASCII

Canadian inflation has regularly hit its central bank's target of 1.725%; unemployment remains stubbornly high at 8.34% with just 67,900 jobs being added in Q4. (In addition, 37,200 job-seekers gave up the search entirely.) Parliament's approval rating is hovering at a near historic low of 9.02%. When a reporter asked "What do you plan to do about the economy?", P.M. Trudeau responded

“Potatoes for everyone!”

Canadian firms are generally cutting back on R&D. The upshot: long-run economic growth could suffer greatly. Some \$1,300 of per-capital GDP gains could be erased.*

* Based on figures from the World Bank (2015).

$1 + 1 = 2$, $\sin(225^\circ) - \cos(45^\circ) = 3.875$.

$i \times j = k$, $63 \div 9 = 7$.

$92 > 12$, $13 < 89$, $1^1 = 1$.

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#ACCUSE ME OF ANYTHING BUT DO NOT ATTACK MY GRAMMAR

The man Smitty Werbenjagerman-jensen: he was #1!

[Square] brackets.

{Curly} braces.

#plays wildest_dreams.mp3

no bc it`s big problem they`re send