



Emerging Intelligence Report

(U) PREPARED BY FBI WASHINGTON FIELD OFFICE

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(U//LES) Darknet Market Actors Likely Convert Illicit Bitcoin to Monero Using MorphToken Cryptocurrency Exchange, Impeding Law Enforcement Tracing Efforts

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(U) EIR template approved for fiscal year 2020, as of 1 October 2019.

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(U//LES) The FBI assesses Darknet Market (DNM) actors likely^a convert illicitly obtained Bitcoin into anonymity-enhanced cryptocurrency (AEC)^b Monero using the MorphToken^c cryptocurrency exchange, impeding law enforcement's ability to trace the destination of the proceeds. This assessment is made with high confidence,^d based on FBI investigations, blockchain analysis,^e use of proprietary software, information from MorphToken, and information obtained from Darknet sites and forums that cater to DNM actors. The FBI assumes the DNM actors' intent of converting cryptocurrencies is not to diversify their cryptocurrency portfolio. If this assumption is incorrect, it could mean DNM actors are not adopting AECs for operational security purposes and the FBI's confidence in the assessment would decrease. The FBI bases this assessment on reporting of DNM actors converting Bitcoin to Monero, the availability of information on the inability to trace Monero, and the means of acquiring it without providing user information.

- (U//FOUO) As of January 2020, DNM actors associated with Apollon DNM sent at least 11 bitcoin (worth approximately \$80,000) to MorphToken to convert to Monero between December 2019 and January 2020, according to a proprietary software tool that analyzes financial

transactions of the Bitcoin blockchain and use of MorphToken's automated programming interface (API).¹

- (U//FOUO) As of October 2019, FBI analysis revealed commission fees from Bitcoin transactions conducted on Cryptonia DNM between May and September 2019 were sent to addresses associated with MorphToken, based on an FBI investigation and blockchain analysis. All Bitcoin transactions able to be queried using MorphToken's API were converted to Monero.^{2, 3, 4}
- (U//LES) As of November 2019, the FBI identified at least four DNM vendors that sent Bitcoin drug sale proceeds to MorphToken, based on FBI investigations, open source blockchain tracing, and use of a proprietary software tool that analyzes financial transactions of the Bitcoin blockchain.^{5, 6, 7, 8}
- (U) As of January 2020, sites and forums that cater to DNM actors provided guides to obtain and use Monero.^{9, 10} Many user posts on the topic discussed the use of

^a (U) See Appendix A: Expressions of Likelihood.

^b (U//FOUO) *Analyst Note:* AECs, unlike Bitcoin, do not publish fully public records of all transactions. This prevents law enforcement from exploiting those records to follow the flow of value through blockchain analysis, a key tool in de-anonymizing DNM actors.

^c (U) MorphToken is a fee-based cryptocurrency exchange service. Customers select which cryptocurrency to send and receive from MorphToken. MorphToken operates without user accounts and does not collect user information.

^d (U) See Appendix B: Confidence in Assessments and Judgments Based on a Body of Information.

^e (U) *Analyst Note:* A blockchain is a digital public ledger that records online cryptocurrency transactions, including those in Bitcoin. Open source tools enable the analysis of these transactions to identify movement of funds.

MorphToken and similar services, which do not collect user information to convert Bitcoin to Monero to safely make DNM purchases or to “clean” “dirty btc.”^{11, 12, 13, 14}

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(U) Analysis of Alternatives

(U//LES) The FBI considered the alternative hypothesis that DNM actors likely only use MorphToken to diversify their cryptocurrency portfolios. The FBI discounted this alternative because many cryptocurrency wallets do not support transactions using Monero and many exchanges do not accept Monero—limitations that would deter investors. Additionally, although MorphToken offers to convert Bitcoin into five different cryptocurrencies, in nearly all the conversions the FBI identified conducted by DNM actors—where the output currency could be identified—the user converted Bitcoin into Monero.

(U//LES) This emerging intelligence report’s assessment is consistent with previous assessments made by the FBI, including the 30 November 2018 FBI Intelligence Assessment, titled (U//LES) *Emerging Darknet Technologies Will Almost Certainly Strengthen the Security of Illicit Traders, Mitigating the Effectiveness of Proven Investigative Techniques*, which assessed AECs, such as Monero, would gain usage by individuals exploiting the Darknet for illicit trade. The analysis in this emerging intelligence report aligns with and substantiates that intelligence assessment by providing examples of DNM actors converting Bitcoin into AECs to conceal criminal proceeds. The FBI assesses, as examples of law enforcement successfully tracing cryptocurrency are published and the accessibility of AECs improves, criminals likely will increase adoption of AECs and the use of services like MorphToken, which do not collect “Know Your Customer” (KYC) information,

to obtain them in the near term. More widespread criminal adoption of AECs will severely limit the ability of law enforcement to trace cryptocurrency involved in illicit activities with existing investigative techniques. Broader acceptance of AECs for payments on DNMs, increased availability of non-KYC cryptocurrency exchangers like MorphToken, and blockchain analysis indicating an increased volume of transactions conducted by these services would strengthen this assessment.

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(U) Source Summary Statement

(U//FOUO) Reporting in this emerging intelligence report was derived primarily from FBI investigations and blockchain analysis with direct access, a proprietary software tool that analyzes financial transactions of the Bitcoin blockchain, and open source information obtained from forums that cater to Darknet audiences and through use of MorphToken’s publically available API. The FBI investigations and blockchain analysis were critical to the key judgment that illicit proceeds were being converted to AECs, as it identified the movement of Cryptonia sales commissions, vendor payments, and likely Apollon sales commissions to the cryptocurrency exchanger MorphToken. The open source information provided context to the FBI’s analysis and helped to inform its outlook. This information collection occurred between August 2018 and January 2020, and was current as of 30 January 2020.

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(U) FBI Washington Field Office prepared this emerging intelligence report. Please direct comments and queries to the FBI Washington Field Office Field Intelligence Group at 1-202-278-2000.

(U) Appendix A: Expressions of Likelihood

(U) Phrases such as “the FBI judges” and “the FBI assesses,” and terms such as “likely” and “probably” convey analytical judgments and assessments. The chart below approximates how expressions of likelihood and probability correlate with percentages of chance. Only terms of likelihood should appear in FBI products; the chart includes terms of probability strictly for comparison, as they sometimes appear in reporting of other government agencies. Furthermore, the FBI does not arrive at judgments through statistical analysis and will not use terms of probability to convey uncertainty in FBI external intelligence products.

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Terms of Likelihood	Almost No Chance	Very Unlikely	Unlikely	Roughly Even Chance	Likely	Very Likely	Almost Certain(ly)
Terms of Probability	Remote	Highly Improbable	Improbable (Improbably)	Roughly Even Odds	Probable (Probably)	Highly Probable	Nearly Certain
Percentages of Chance	1-5%	5-20%	20-45%	45-55%	55-80%	80-95%	95-99%

(U) Table showing terms of likelihood aligned with terms of probability and percentages of chance.

(U) Appendix B: Confidence in Assessments and Judgments Based on a Body of Information

(U) Confidence levels reflect the quality and quantity of the source information supporting a judgment. Consequently, the FBI ascribes high, medium, or low levels of confidence to assessments, as follows:

(U) **High confidence** generally indicates the FBI's judgments are based on high quality information from multiple sources. High confidence in a judgment does not imply the assessment is a fact or a certainty; such judgments might be wrong. While additional reporting and information sources may change analytical judgments, such changes are most likely to be refinements and not substantial in nature.

(U) **Medium confidence** generally means the information is credibly sourced and plausible but not of sufficient quality or corroborated sufficiently to warrant a higher level of confidence. Additional reporting or information sources have the potential to increase the FBI's confidence levels or substantively change analytical judgments.

(U) **Low confidence** generally means the information's credibility or plausibility is uncertain, the information is too fragmented or poorly corroborated to make solid analytic inferences, or the reliability of the sources is questionable. Absent additional reporting or information sources, analytical judgments should be considered preliminary in nature.