IN THE GENERAL DIVISION OF THE HIGH COURT OF THE REPUBLIC OF SINGAPORE

HC/OC /2024
HC/SUM /2024

Between

NOTIONAL PTE LTD
(Singapore UEN No. 202226456W)

…Claimant

And

PERSONS UNKNOWN
(ID No. Unknown)

… Defendant(s)

AFFIDAVIT

I, **MIKA DAHIYA** [USA Passport No. 565XXXX91] care of 30 N Gould Street, Suite R, Sheridan Wyoming, USA 82801 do solemnly and sincerely make oath / affirm and say as follows:

1. I am a Cybercrimes Investigator. I was previously employed by Chainalysis Inc (**"Chainalysis"**), an investigative service provider for cryptocurrency-related crimes. Chainalysis was engaged by the Claimant to investigate the theft of several of its cryptocurrencies and Non-Fungible Tokens. On 1 April 2024, my team and I moved to zeroShadow LLC, a cryptocurrency security and incident response firm.

2. The matters deposed to herein are either of my own knowledge or are based on the documents in the possession, custody or power of the Claimant. Insofar as the matters deposed to herein are within my personal knowledge, they are true. Insofar as the matters deposed to herein are based on the documents in the possession, custody or power of the Claimant, they are true to the best of my knowledge, information and belief.

3. On or around February 2024, the Claimant engaged Chainalysis to investigate the theft of the Claimant's assets on the BitCanna, Celestia, Sei, Stargaze, Cosmos and Osmosis blockchain.

4. Based on the investigation conducted by Chainalysis, I prepared the following materials to document the findings of the investigation in a Crypto Incident Response Report dated 3 May 2024 ("**Report**"). The Report was prepared by me as I led the team from Chainalysis conducting the investigation. A copy of the Report is exhibited hereto and marked "**MD-1**".

5. I confirm that the contents of the Report are true and accurate to the best of my knowledge, information and belief.

SWORN / AFFIRMED by the above-named)
MIKA DAHIYA)
This 6 day of May 2024)

Mika Dahiya

Before Me,

Ravon Swindell

A Notary Public

Ravon Swindell 5-6-24

This affidavit is filed on behalf of the Claimant

RAVON SWINDELL
Notary Public - Arizona
Maricopa County
Commission # 611414
My Comm. Exp. August 9, 2025

This is the exhibit marked "**MD-1**"
Referred to in the affidavit of
MIKA DAHIYA
Sworn / Affirmed before me
This 6 day of May 2024

BEFORE ME,

Ravon Swindle II

A NOTARY PUBLIC

Ravon Swindle 5-6-24

RAVON SWINDELL
Notary Public - Arizona
Maricopa County
Commission # 611414
My Comm. Exp. August 9, 2025

Notional PTE Ltd Exploit

May 3, 2024

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I. Background

Notional PTE Ltd ("Notional") contacted Chainalysis's Crypto Incident Response (CIR) Team to investigate an exploit which occurred between January 7, 2024, and February 29, 2024 (UTC). Notional experienced a wallet-and-private-keys compromise on the following blockchains: Celestia, Sei, Stargaze, Cosmos, and Osmosis, where approximately $1.512M USD was stolen from Notional-controlled addresses.

The Notional team advised Chainalysis CIR of a mass staff departure experienced by the entity in November 2023. During this mass staff departure, a key employee known as Mr. Mai Gia Long (here forth referred to as "Mr. Long"), a key employee and shareholder of Notional PTE Ltd, possessed exclusive access to critical wallet seed phrases of Notional PTE Ltd crypto funds. Mr. Long proceeded to use the possession of these critical seed phrases as leverage in order to bargain for a more favorable exit package from the company. Notional was able to gain access and control of the private keys and wallets on December 15, 2023. Approximately 23 days afterwards, the client's wallets were compromised.

Below is a table of the initial amounts and tokens stolen and the approximate value at the time of the theft[1], **Table 1**:

Address	Date	Blockchain	Token Amount	USD Equivalent
celestia1083svrca4t350mphfv9x45wq9asrs60ce9xvfv	2024-01-07 8:53 PM UTC	Celestia	71,810.596 TIA	$1,085,776
sei1083svrca4t350mphfv9x45wq9asrs60c9rx24q	2024-01-07 8:58 PM UTC	Sei	145,499 SEI	$103,566
stars1083svrca4t350mphfv9x45wq9asrs60cunqpcs	2024-01-07 9:10 PM UTC	Stargaze	11 Bad Kid NFTs	$45,798
stars1083svrca4t350mphfv9x45wq9asrs60cunqpcs	2024-01-07 8:58 PM - 8:59 PM UTC	Stargaze	218,900.198 STARS	$9,097
cosmos1083svrca4t350mphfv9x45wq9asrs60cg0hunp	2024-01-07 9:02 PM - 9:36 PM UTC	Cosmos	21,745.85 ATOM	$212,143
osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	2024-01-30 9:25 AM UTC	Osmosis	15,000 OSMO	$26,334
osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	2024-02-06 12:27 AM UTC	Osmosis	18,999 OSMO	$29,639
Approximate USD Value Total				**$1,512,353**

[1] Values in this section reflect an estimated value of the token around the time of the theft, and do not reflect current market values for the tokens or market values of when tokens were transferred and/or swapped to other tokens.

II. Methodology of Investigation

The following software, resources, and methodology was used during the course of this investigation:

1. Reactor[2] (software)
2. mintscan.io (publicly available interchain explorer)
3. axelarscan.io (publicly available blockchain explorer)
4. etherscan.io (publicly available blockchain explorer)
5. eXch.cx (contacted via email)
6. Binance (contacted via Telegram)

As the victim's stolen funds occurred on blockchains not supported within Reactor, such as Celestia, Sei, Stargaze, Cosmosis and Osmosis, the following publicly available interchain explorer was used to identify the flow of funds: mintscan.io in conjunction with the Axelar blockchain via the Axelar.Network and eXch.cx.

The following section, Summary of Investigative Findings, makes reference to the software, resources, and methodology outlined above.

III. Summary of Investigative Findings[3]

On January 7, 2024, a threat actor stole four different cryptocurrencies and a set of Non-Fungible Tokens ("NFTs") from Notional. Three of the cryptocurrencies were transferred to the threat actor's addresses on the same blockchains and then to the threat actor's addresses on the Osmosis blockchain. Eventually, the threat actor transferred the cryptocurrencies, through the Axelar blockchain via the Axelar.Network and bridged[4] them to the Ethereum blockchain converting the axlWETH into the Ethereum-native cryptocurrency token Ether (ETH). The fourth cryptocurrency and the NFTs remain in the threat actor's account in that blockchain.

Figure 1 provides a representation of fund movements carried out by the threat actor.

[2] Reactor is a blockchain investigation tool created by Chainalysis and used throughout the industry. Reactor serves as a visualization tool for cryptocurrency flows, which allows for the live tracing of funds and identification of real-world entities in relation to crypto activity.
[3] Values in this section primarily reflect the approximate price value of the tokens on March 4, 2024, and not the initial value of when the theft occurred.
[4] In this section, the term "bridge" or "bridging" can also be referenced as an "IBC transfer" or "Inter-Blockchain Communication Protocol" which is a protocol or method used to transfer funds via one blockchain or protocol to another.

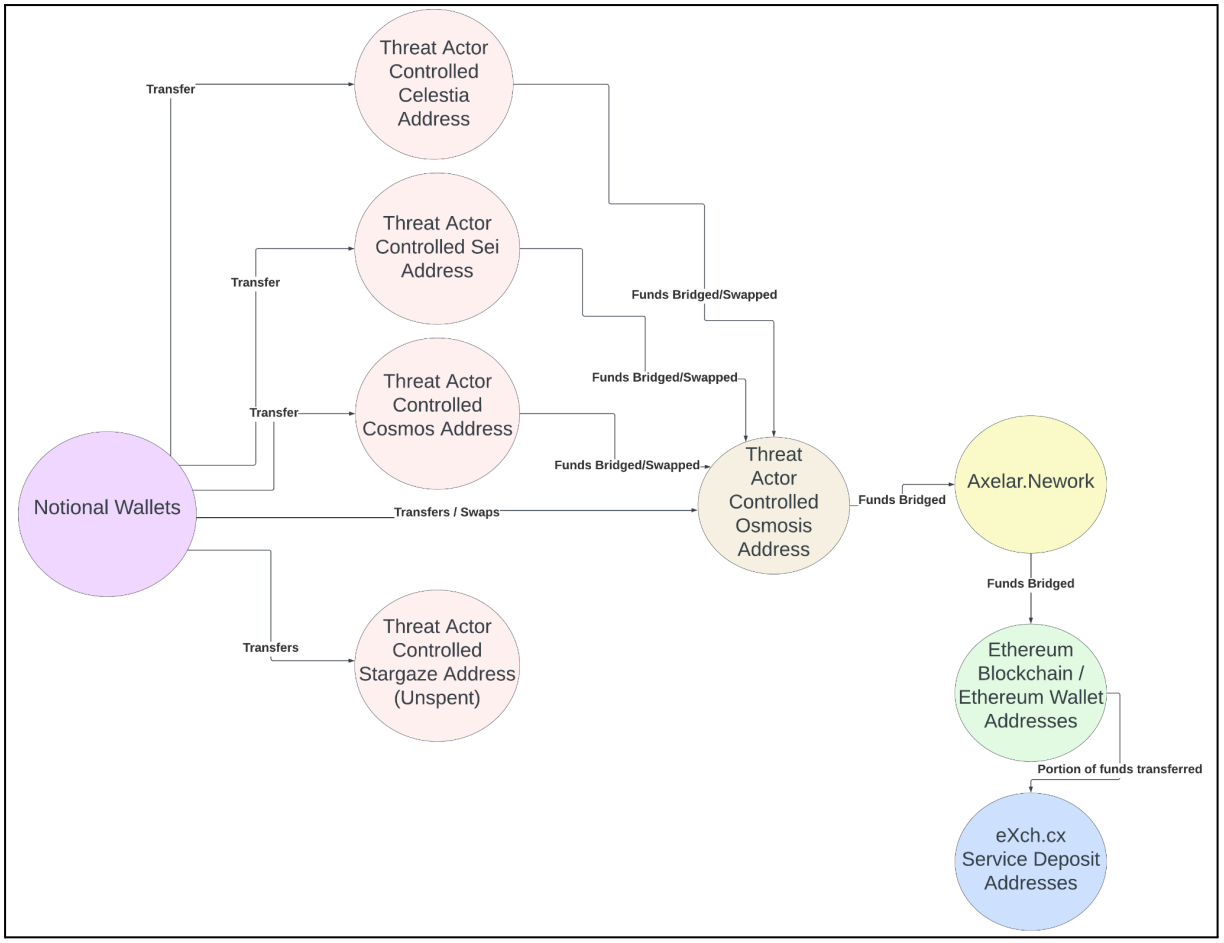


Figure 1: An illustration of the flow of funds conducted by the threat actor.

The following table, **Table 2**, sets forth the addresses and the blockchains where the unspent stolen cryptocurrencies are located as of March 4, 2024. The table also sets forth the corresponding token amounts and the US dollar equivalent values of those tokens as of March 4, 2024.

Table 2:

Address	Blockchain	Token Amount	USD Equivalent
0xE2240450744f67DD61289A6071c9E72411F20105	Ethereum	25.396 ETH	$90,975
0x758E54d88BDAb00bE93e89800D894ffdfF0c63C5	Ethereum	127.703 ETH	$457,626
celestia1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf7re4tj	Celestia	40,000.58 TIA	$619,609
stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	Stargaze	218,900.198 STARS	$8,727
stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	Stargaze	11 Bad Kid NFTs	$45,798[5]
osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d	Osmosis	9.834 OSMO	$15.60
osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d	Osmosis	4,000 TIA	$61,960
Approximate USD Value Total			**$1,284,710.60**

The flow of funds consisted of stolen funds being transferred from the victim's address to an address controlled by the threat actor. Funds would then be bridged[6] from the original blockchain of theft via the Inter-blockchain Communication Protocol (IBC Transfer). In an IBC transfer, the destination of funds can be seen in the transaction information as seen below in Figure 2.

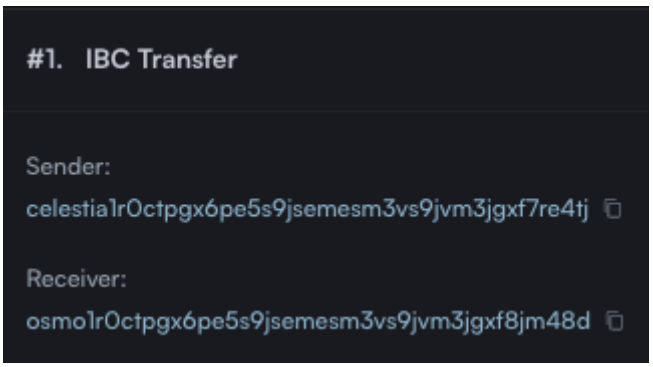


Figure 2: An illustration of the sending and receiving addresses in an IBC transfer.

[5] The threat actor stole 11 Bad Kid NFTs and the value of the NFTs is subject to price fluctuation and market demand. A complete list of the NFTs stolen can be found in Appendix B and can also be found here: https://www.stargaze.zone/p/stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w/tokens

[6] In this section, the term "bridge" or "bridging" can also be referenced as an "IBC transfer" or "Inter-Blockchain Communication Protocol" which is a protocol or method used to transfer funds via one blockchain or protocol to another.

For the stolen funds on the Celestia, Sei and Cosmosis blockchains, the funds were consolidated at the Osmosis address referenced in Figure 1. Following the consolidation of funds, the funds were converted from one token to another, ultimately into axlWETH tokens. Following the conversion of the tokens into axlWETH tokens , the funds were bridged from the Osmosis blockchain to the Axelar blockchain via the Axelar.Network. Ultimately, the Axelar.Network transactions were analyzed by two methods, depending on the transaction type. One method used to analyze the Axelar.Network transaction was by inputting the Axelar address as seen on the Osmosis transaction on axelarscan.io. The Ethereum wallet address destination would be provided as seen below in Figure 3:

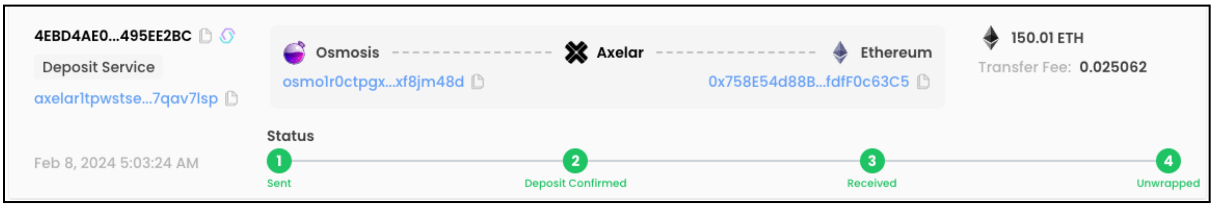


Figure 3: The image above is a screenshot showing the destination of funds.

Another method used to analyze the Axelar.Network address destination, consisted of a two-step process. Step 1: Review the Axelar.Network transaction code to identify the Ethereum wallet address destination, as seen below in Figure 4:

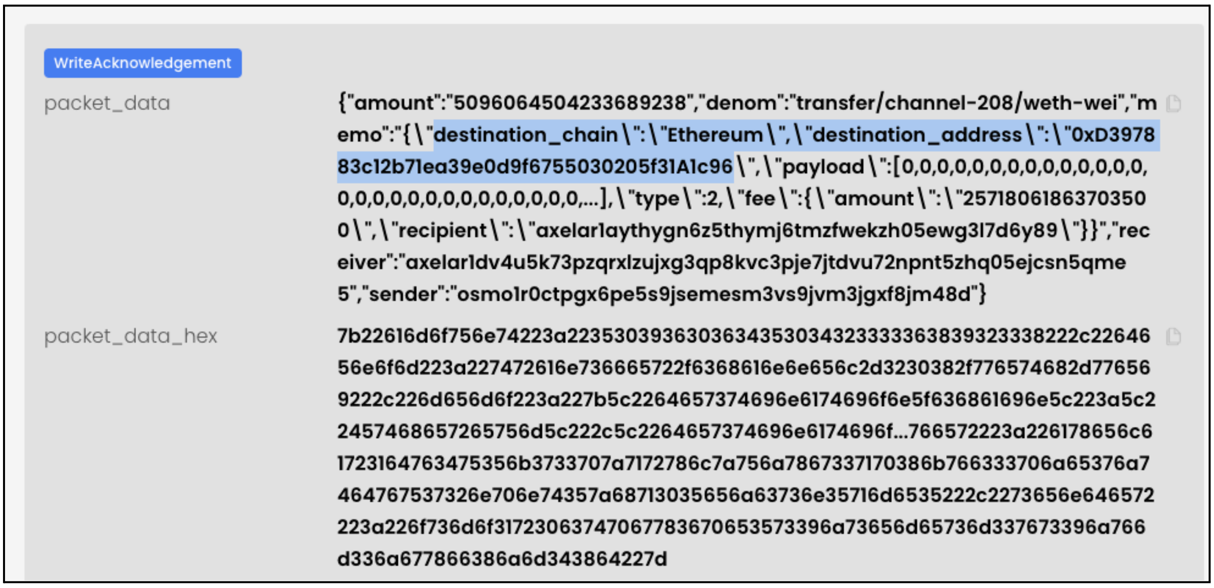


Figure 4: The image above is a screenshot of the transaction code, providing the amount of funds transferred, destination blockchain and address.

After identifying the destination address, as seen in the code above, Step 2 involved Time and Spend Analysis. For this step, Reactor was used, as it contains a feature to filter by date and time. The initial timestamp and date for the transaction referenced in Figure 3 was January 12, 2024 at 7:06 PM UTC and the initial transfer value (excluding fees) was 5.096064504233690000 axlWETH. Chainalysis reviewed withdrawals of the destination

address, from the time of transfer and with a 24-hour window. The only candidate identified is reflected in Figure 5:

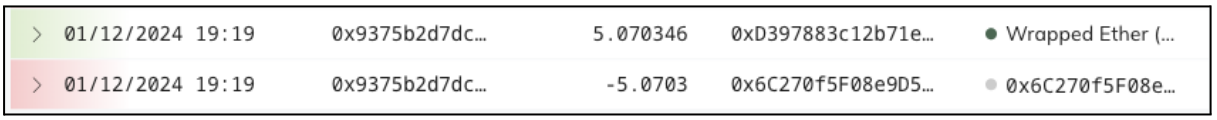


Figure 5: The image above is a screenshot of the high confidence withdrawal candidate.

Adhering to this method, the threat actor had three other transactions, which utilized this method, from which the Osmosis-Axelar transaction amounts mirrored what was initially bridged by the threat actor. Figure 6 references this method and demonstrates how funds were consolidated, further confirming the high confidence of the methodology utilized:

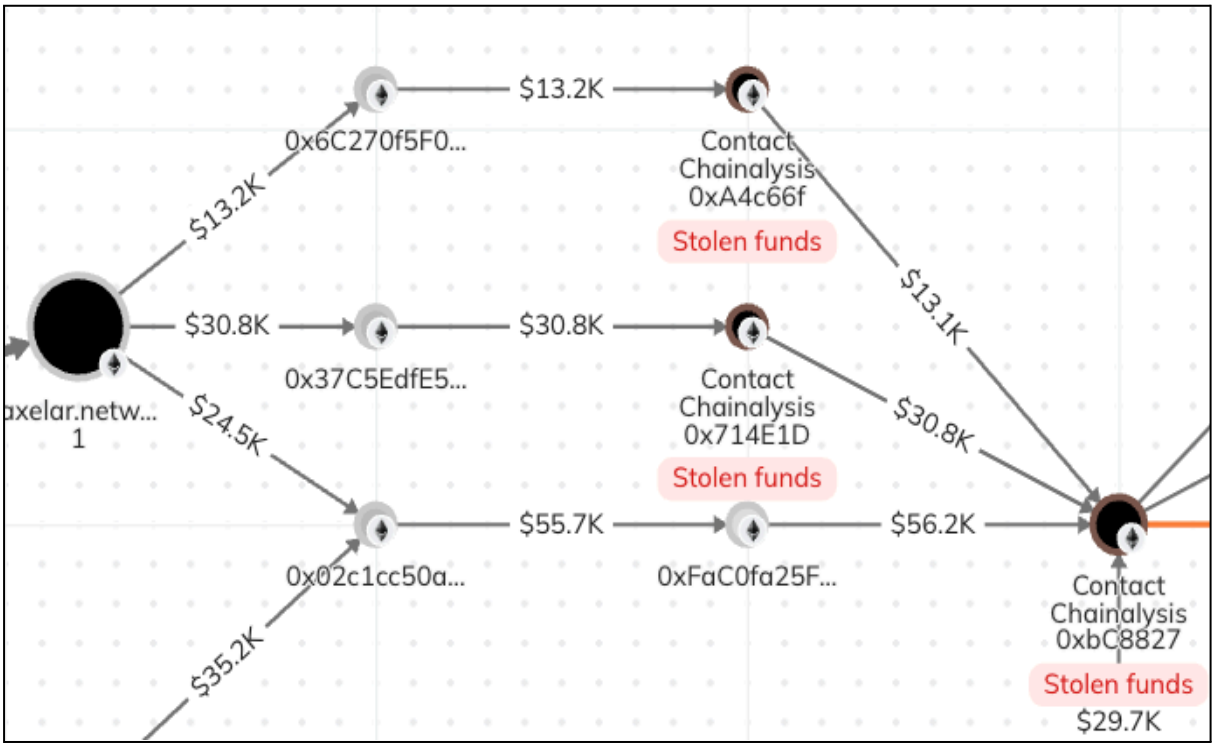


Figure 6: The image above is a screenshot referencing the second methodology utilized to analyze high confidence withdrawal Axelar.Network candidates.

eXch.cx deposit addresses were confirmed by three forms: 1) Etherscan.io attribution; 2) Reactor attribution; and 3) an eXch.cx confirmation via email that the deposit addresses belong to their platform.

Attribution for Binance's Cosmos hot wallet address was initially found via OSINT (Reddit, Twitter) and ultimately confirmed by Binance via a Telegram message.

IV. January 2024 Theft and Initial Movement of Funds

The section below will provide a brief description associated with the initial movements of the stolen funds in reference to the January 2024 theft. In addition, an in-depth visual showing the flow of stolen funds can be found in the three attachments titled, “Phase 1 of 3”, “Phase 2 of 3”, and “Phase 3 of 3”.

A. Celestia (Native Token - TIA)

On January 7, 2024, at approximately 8:53 PM UTC, 71,810 TIA tokens (~$1.085M USD value) were taken from Notional-controlled address: celestia1083svrca4t350mphfv9x45wq9asrs60ce9xvfv (**celestia1083s**) and transferred to the following threat actor controlled address: celestia1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf7re4tj (**celestia1r0ct**) via transaction hash: 14910791F4007F61316E3518E9966F730049D0039C5E7CDD1F5853E777618069

Following the transfer and theft of the TIA tokens, the threat actor bridged a total of 31,810 TIA tokens (~$360,730 USD value) from **celestia1r0ct**, via four transactions that occurred between January 12, 2024 and February 8, 2024, to Osmosis address: osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d (**osmo1r0ct**)

On January 12, 2024, following the transfer of the stolen TIA, **osmo1r0ct** swapped 800 TIA tokens for 5.096 axlWETH tokens.[7] The threat actor then continued to swap an additional 27,010 TIA tokens between January 12, 2024 and February 8, 2024. These tokens were either swapped directly to axlWETH tokens, or to OSMO tokens and then to axlWETH tokens. The swapping of these 27,810 TIA tokens resulted in the threat actor acquiring 211.4544186 axlWETH tokens. The axlWETH tokens were then bridged from the Osmosis blockchain to the Ethereum blockchain via the Axelar.Network. Figure 7 shows the initial movements of the stolen funds on the Celestia blockchain which were bridged to the Osmosis blockchain.

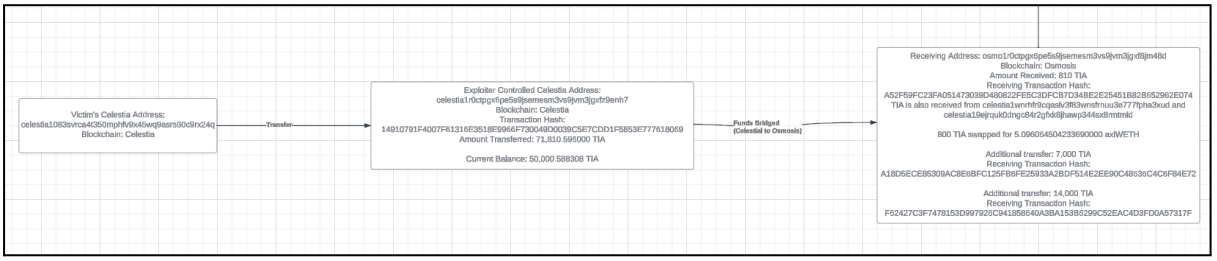


Figure 7: An illustration of the initial movements of the stolen funds from **celestia1083s**

The following table, **Table 3**, references the TIA token swaps conducted by the threat actor to address **osmo1r0ct** in which TIA tokens were swapped for axlWETH tokens directly, or on one occasion, were swapped for OSMO tokens, and then swapped for axlWETH tokens.

[7] “AXLWETH” or “axlWETH” is a wrapped, multi-chain representation of the Ethereum token, “ETH”. This wrapped token allows for the bridging of ETH from the Osmosis blockchain to the Ethereum blockchain.

Table 3:

Transaction Hash	Date	Token In	Token Out
2EB0D607ABAAB1C07AE60CB13DA7F0C01EE25EDBF32128B6D95D66A137BB739C	2024-01-12 7:05 PM UTC	800 TIA	5.096064504233690000 axlWETH
6F221EA2DFC331B494A187782D018341B46240345A4FDB6C2D3E9933096B1B72	2024-01-24 5:41 AM UTC	4,000 TIA	44,354.298668 OSMO
224E596F39B52CBDEA54E6F760C49C95940BB1DBD2F5584249895480CE75624E	2024-01-24 5:43 AM UTC	44,354 OSMO	28.817387059261403000 axlWETH
844ACEFA9626250631AB6ABD773FEE7DD048D03B0C60E062D568E61ABA20A0CD	2024-01-24 7:20 AM UTC	3,000 TIA	22.079259722705130000 axlWETH
9725BEB4795ACD8F39545C2BD9B5483403B0698289D35C84D5FA3C928968D91A	2024-01-26 4:23 PM UTC	2,000 TIA	14.553937374503649000 axlWETH
2F9BB863774EF1CDBD1B79B08DFD7315124FA2805F40884991EEEA15692F88D7	2024-01-26 6:50 PM UTC	2,000 TIA	14.569953524808307000 axlWETH
9363840FA33605994754199D169C498A09A0D97ABCF7F43000BF4436BF2D4CD1	2024-01-27 12:33 PM UTC	2,000 TIA	14.746630609435526000 axlWETH
558CCECA4E26979208D8C2994BACF41276B18F96AB3FB9249BD84D8C37144C6D	2024-01-27 5:31 AM UTC	2,500 TIA	18.737740554722734000 axlWETH
FE6C1B9C31A34E30A87CBA956EDFD4ABFF4C2C4F865068C3A981AFA99CA19498	2024-01-27 5:33 AM UTC	300 TIA	2.244456224104483000 axlWETH
92DEF030CC099CC3886A1F5DF5F3F5A5B6DEE1F9A0F28C645C83D05CD0901847	2024-02-03 7:31 AM UTC	2,000 TIA	15.659494815334005000 axlWETH
32AD7DFCF34AAA9F1967A7B4F2B2E5F121B5FB2BCB83A32DE372F0895311B6E1	2024-02-05 9:24 AM UTC	1,210 TIA	9.455055843573481000 axlWETH
1A062F0FAF473C32E88BE276C6631BA24D12CEDCEF538B330D207E3D2A51AA17	2024-02-08 11:58 AM UTC	2,000 TIA	16.006306486226208000 axlWETH
FD6A4A5B008D81ABF19FD4DF01D055CE1D6E609C799F14952C1B4A7968B832CA	2024-02-08 4:22 PM UTC	2,000 TIA	16.475958236573863000 axlWETH
C0446CB0F15340A1F8A8A26C4FC81C762F122F1F1BFCA31CC02962A7D41BE741	2024-02-08 4:34 PM UTC	2,000 TIA	16.471590145778930000 axlWETH
B7CC7DC8D46CEFDABF3D6ACC6B9AAFF9E71D678555DD53CD638021E7195E230C	2024-02-08 8:14 PM UTC	1,000 TIA	8.263272693093810000 axlWETH
1ABB89E7F9BCAD00CA909C02447463A7015FFE192263170F7475446E96CCF50F	2024-02-08 8:16 PM UTC	1,000 TIA	8.277310818919114000 axlWETH

As of March 4, 2024, 40,000 TIA tokens remain at **celestia1r0ct** and 4,000 TIA tokens remain at **osmo1r0ct**.

B. Sei

On January 7, 2024, at approximately 8:58 PM UTC, 145,499 SEI tokens (~$103,566 USD value at the time of transfer) were taken from Notional-controlled address: sei1083svrca4t350mphfv9x45wq9asrs60c9rx24q (**sei1083s**) and transferred to the following threat actor controlled address: sei1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfz9enh7 (**sei1r0ct**) via transaction hash: 51F3E1924A9329D992B8287D3155457B2C1BCA4A8AA9844280E872C6C3940FE6

Following the transfer and theft of the SEI tokens, the threat actor bridged 145,498 SEI tokens (~$101,848 USD value at the time of transfer) from **sei1r0ct**, in one transaction on January 19, 2024, to Osmosis address: osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d (**osmo1r0ct**)

Between January 19, 2024 and January 23, 2024, the threat actor swapped the 145,498 SEI tokens from the **osmo1r0ct** address for 51,721.68611 OSMO tokens.

Between January 19, 2024 and February 8, 2024, the threat actor swapped the 51,721.68611 OSMO tokens for 37.770748 axlWETH tokens.[8] The axlWETH tokens were then bridged from the Osmosis blockchain to the Ethereum blockchain via the Axelar.Network. Figure 8 shows the initial movements of the stolen funds on the Sei blockchain which were bridged to the Osmosis blockchain.

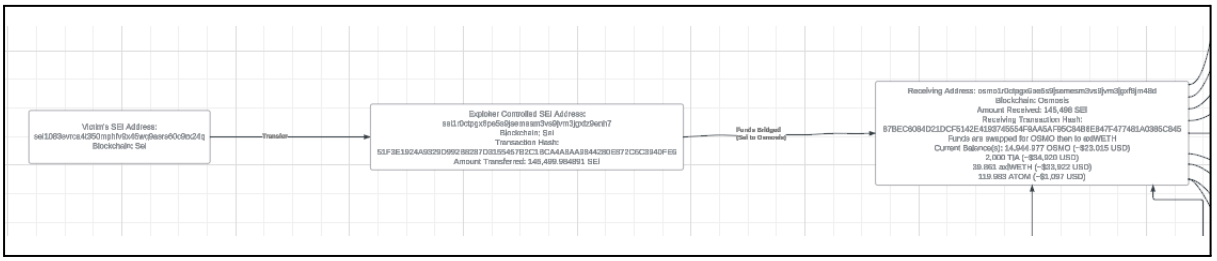


Figure 8: An illustration of the initial movements of the stolen funds from **sei1083s**

The following table, **Table 4**, references the SEI token swaps conducted by the threat actor to address **osmo1r0ct** in which the SEI tokens were swapped for axlWETH tokens directly, or were swapped for OSMO tokens, and then swapped for axlWETH tokens.

Table 4:

Transaction Hash	Date	Token In	Token Out
85B1E15802670551E8A707E8979E5E7000438A38DDD3C3D4BAAA5665DC844137	2024-01-19 6:54 PM UTC	20,000 SEI	8,553.451590 OSMO
F651F932253BBA676961273977E2239B10E905A1FEC3F490288EF9651EA56572	2024-01-19 7:01 PM UTC	25,000 SEI	10,635.113665 OSMO
FAFF15C870752C77F4C42ECE346B0CF2B9DBA621C6E32D0BF15DD7990F2E7BAE	2024-01-19 7:05 PM UTC	19,188 OSMO	12.375183665055268000 axlWETH

[8] "AXLWETH" or "axlWETH" is a wrapped, multi-chain representation of the Ethereum token, "ETH". This wrapped token allows for the bridging of ETH from the Osmosis blockchain to the Ethereum blockchain.

57EDA96F877EF8FD16BBCAEA1171B3A4D387382AB5FA305AABB3E8EFD26BB65F	2024-01-22 6:44 PM UTC	20,000 SEI	8,034.073169 OSMO
C74EC719236CCC47A6DA515FA2E2F606B332D1E47F518B5D0D81EAF9DEFFA690	2024-01-22 6:52 PM UTC	20,000 SEI	8,018.854816 OSMO
51665EE2BC214517E49D5CC48DCB846916F9ED17AAF67362D7DDF98165AF3CDB	2024-01-22 6:53 PM UTC	20,000 SEI	8,029.310090 OSMO
4D61748B58B6B225B92951BE60C444CD7A16480CD03B4A9170CF9DB5A2856164	2024-01-22 6:57 PM UTC	24,082.000000 OSMO	14.917406515585570000 axlWETH
700C8E0CE56C8B0F04902794CAD2D34386BFB7BA64D142FCE8BAA7B71AEEB493	2024-01-23 7:05 AM UTC	20,000 SEI	8,450.882782 OSMO
0F942EAECC0552F4E96F4A7E637BD4123E8E1794C35BF4B75897B998D3DC1AF8	2024-01-23 7:05 AM UTC	20,498 SEI	5.288300096937015000 axlWETH
7844B121122979CBEA03D72CC8772CE49CEA0E47EA6D9339D5EB7168C39830DD	2024-01-23 7:06 AM UTC	8,451 OSMO	5.189857726861664000 axlWETH

As of the date of this report, there is 1.943225 SEI tokens remaining at sei1r0ct.

C. Stargaze

On January 7, 2024, from approximately 8:58 PM to 9:10 PM UTC, 11 Bad Kid NFTs(~$45,798 USD value at the time of transfer) and 218,900.198 STARS tokens (~$9,097 USD value at the time of transfer) were taken from Notional-controlled address: stars1083svrca4t350mphfv9x45wq9asrs60cunqpcs (**stars1083s**) and transferred to the following threat actor controlled address: stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w (**stars1r0ct**) via 12 transactions, shown in the table below.,

Table 5:

Transaction Hash	Date	Token In	Receiving Address	Blockchain
AC493F58BD807819BC33C26D4EEE3A910FA5F669F8466BA4B7FA2DD099B89A21	2024-01-07 8:58 PM UTC	Bad Kid NFT #7280	stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	Stargaze
0587FEAFFE7BF1513554EFF934FDAC32FB3F4697D25870590A6D01D1B0EE37A0	2024-01-07 8:58 PM UTC	Bad Kid NFT #6479	stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	Stargaze
D69A7857E849519688E51CB477FAA23C96F4CA8660C56BC0F5886B5D2C48D5FD	2024-01-07 8:58 PM UTC	Bad Kid NFT #4160	stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	Stargaze
C70339CCDF073E941411F2095B5EF4695EA41FF134EF9DDDE55CA51833B7F31C	2024-01-07 8:58 PM UTC	Bad Kid NFT #4030	stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	Stargaze
D640D7D61FC8A8EF3BA74E3916A9DBD3E654416DA492C21CB0947FB42B655AB4	2024-01-07 8:58 PM UTC	Bad Kid NFT #3547	stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	Stargaze
1A4A8E45FA338F048E3BAE422E93A601246D8D58715AB33680BCAA4A22B7546F	2024-01-07 8:58 PM UTC	Bad Kid NFT #3182	stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	Stargaze
F3BD59BC0A57DF9B4EF5F857D03965B9DB767597A7A420F179F595818F392D58	2024-01-07 8:59 PM UTC	Bad Kid NFT #3085	stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	Stargaze
AFF010495BD991D85CDA2B36E0FEA6063F853B726670F4CEAE3D45A7D615AD92	2024-01-07 8:59 PM UTC	Bad Kid NFT #2739	stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	Stargaze
FFE75229A42F525D527A8724CB7B6227C11BE626BC5F2CBE73F87FD42BC5A8E1	2024-01-07 8:59 PM UTC	Bad Kid NFT #2211	stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	Stargaze

672A96DF05C92193573ABFE6587A8FD08D58567FDF65BF0780E7E4C4AC427ABB	2024-01-07 8:59 PM UTC	Bad Kid NFT #2184	stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	Stargaze
B0FEDE6FBFCB6EA86E315A0DB2D9DA5AF3F6305C11F5253AA023AB8A54BEF0B1	2024-01-07 8:59 PM UTC	Bad Kid NFT #9798	stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	Stargaze
7D7C532CB6A683403E4324F88ADC7ABD4FC6129D5F625013CA0B866A9FD2D692	2024-01-07 9:10 PM UTC	218,900.198982 STARS	stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	Stargaze

The stolen 11 Bad Kid NFTs and 218,900.198 STARS tokens remain unspent at **stars1r0ct** as of the date of this report. Figure 9 shows the initial movements of the stolen funds on the STARS blockchain.

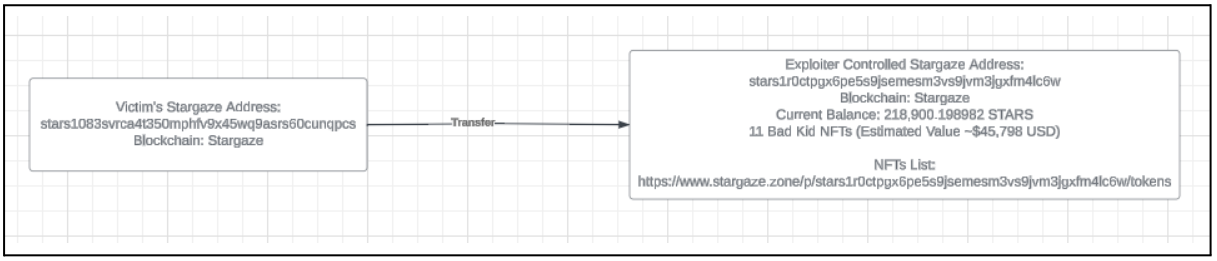


Figure 9: An illustration of the initial movement of the stolen funds from **stars1083s**

D. Cosmos

On January 7, 2024, from approximately 9:02 PM to 9:36 PM UTC, 21,745.85 ATOM tokens (~$212,143 USD value at the time of transfer) were taken from Notional-controlled address: cosmos1083svrca4t350mphfv9x45wq9asrs60cg0hunp (**cosmos1083s**) and transferred to the following threat actor controlled address: cosmos1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf0fg93l (**cosmos1r0ct**) via five transactions, shown in the table below.

Table 6:

Transaction Hash	Date	Token In	Receiving Address	Blockchain
107295BBF3CA19C7BBE46A357622EC1292968F5D2F404C4A3165850030FCC1F7	2024-01-07 9:02 PM UTC	10,002.891752 IATOM[9]	cosmos1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf0fg93l	Cosmos
CC7CBD9224F2A93E4F9961DCF2C71AE95E604E32B1A660EFC7F00EB63788CA28	2024-01-07 9:05 PM UTC	9,001.601442 IATOM	cosmos1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf0fg93l	Cosmos
9C92D73C9E98188D39F01C17C7D8CCCC21025E89EB358FA8A96D746667CFB157	2024-01-07 9:19 PM UTC	2,420.690000 IATOM	cosmos1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf0fg93l	Cosmos
5B54025BEB3E3EC5E061F4BC9A3951ED711EB45E0FD45DCDFC472519B30D7025	2024-01-07 9:21 PM UTC	200.000000 IATOM	cosmos1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf0fg93l	Cosmos
AEE1B2F5DF512577655C65A3EDD5F17BC27C9DB2267A3D5F40D0FEDA03E31CE0	2024-01-07 9:36 PM UTC	120.662447 ATOM	cosmos1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf0fg93l	Cosmos

[9] IATOM tokens are ATOM token equivalents. "IATOM" tokens are received in exchange for when ATOM tokens are tokenized or loaned.

Following the transfer and theft of the ATOM tokens, on January 12, 2024, the threat actor bridged 120 ATOM tokens from **cosmos1r0ct** (~$1,120 USD value at time of transfer) to Osmosis address: osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d (**osmo1r0ct**). The threat actor then tokenized his shares, i.e., the threat actor loaned the stolen tokens and earned additional tokens as his interest or reward for making the loan.

On February 5, 2024, the threat actor attempted to bridge 21,654.363038 ATOM tokens from **cosmos1r0ct** to **osmo1r0ct**, however the transaction failed as there were insufficient funds to pay for the transfer and transfer fees of the transaction. See transaction hash: 550BCAB86472BE3524D656EFB22F86AD820832789C6AC090CBE11F75D817E55E

On February 8. 2024, the threat actor successfully transferred the remaining 21,654.063 ATOM tokens from **cosmos1r0ct** to **osmo1r0ct** via transaction hash: 78F0AF6E13E1277349F9B10062C19F8E19FA20415F73A9942A652A375DEA4EBB

Below is a table, **Table 7**, referencing the ATOM transactions which bridged funds from **cosmos1r0ct** to **osmo1r0ct**

Table 7:

Transaction Hash (Cosmos)	Date	Token Transferred / Received	Receiving Transaction Hash (Osmosis)	Receiving Address
F6D634122D8DE1710EC0C297F7386EEBC01470E9F9833869F9F256F5FA9C6EB7	2024-01-12 7:02 PM UTC	120 ATOM	436A376F6E4991558C4B66E44D7081A2ACDF178F644A78EB4750BCEBE1C876F9	osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d
550BCAB86472BE3524D656EFB22F86AD820832789C6AC090CBE11F75D817E55E	2024-02-05 9:22 AM UTC	21,654.365862 ATOM	**Failed Transaction**	osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d
38F9C5D6FD041CF0B569833689E060810BEF7061D279303D1D397770C10D6CB3	2024-02-08 12:38 PM UTC	21,654.363036 ATOM	**Failed Transaction**	osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d
78F0AF6E13E1277349F9B10062C19F8E19FA20415F73A9942A652A375DEA4EBB	2024-02-08 12:38 PM UTC	21,654.063036 ATOM	3457A83F7E3D333A307F0A712B83E20CE04DC01BDFC6BBDF7A96998D916FE3AB	osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d

On February 8, 2024, the threat actor, in two separate transactions, swapped 21,774.05 ATOM tokens from **osmo1r0ct** in exchange for 83.98052357 axlWETH tokens and bridged them to the Ethereum blockchain.

Figure 10 shows the initial movements of the stolen funds on the Cosmos blockchain.

Figure 10: An illustration of the initial movements of the stolen funds from **cosmos1083s**

The following table, **Table 8**, references the ATOM token swaps conducted by the threat actor to address **osmo1r0ct** in which ATOM tokens were swapped for axlWETH tokens directly, or were swapped for OSMO, and then swapped for axlWETH tokens.

Table 8:

Transaction Hash	Date	Token In	Token Out
B300EB8CFFCB40C8C80726F137143DA02DA8A76F930498BF21B91590F90C0515	2024-02-08 12:40 PM UTC	10,000 ATOM	57,393.152160 OSMO
7B60706BD3F8570EE57046CC55A340B109D68123F184671C77756563073D38D0	2024-02-08 12:42 PM UTC	11,774.05 ATOM	67,481.319405 OSMO
784E1DABD10DAAFED4E687396F5C04A81ED3132290FDC825C38F6FC687381AB6	2024-02-08 12:54 PM UTC	30,000 OSMO	20.298203463086423000 axlWETH
4E9CDF1AA84F430C8EDE98A0AE52DAD50C55BDE2E2464C5AC17ED6BD7DBAD508	2024-02-08 12:55 PM UTC	30,000 OSMO	20.265432780318770000 axlWETH
F04BE1F2FD6443A96F5FDB90DE4093A7FF6691098C396ABB5154030A271675D4	2024-02-08 12:57 PM UTC	30,000 OSMO	20.171729984587970000 axlWETH
575130BEFA45D819359EB7576F64FBA410FED97426507F585B1B8125D88D2604	2024-02-08 1:01 PM UTC	34,868.18 OSMO	23.245157341624253000 axlWETH

E. Osmosis

By January 30, 2024, the threat actor had bridged the majority of stolen funds from the Celestia blockchain and all of the stolen funds from the Sei blockchain to the following threat actor controlled address: osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d (**osmo1r0ct**)

On January 30, 2024, at approximately 9:25 AM UTC, 15,000 OSMO tokens (~$26,334 USD value at the time of transfer) were taken from Notional-controlled address: osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n (**osmo1083s**) and transferred to **osmo1r0ct** via transaction hash: E2254CC0F397E5072955D16C9D96DBA31DF8AE50DB472DECC029ACE94DD9C126

Following the transfer and theft of the OSMO tokens, on January 31, 2024, 20 OSMO tokens were swapped for 11.248193 AKT tokens on the Akash blockchain.

Table 9:

Transaction Hash	Date	Token In	Token Out
16E63347D680D9BEC6AE9E1D8EB5818911FEFD6251187DF763C479CFFFC5BB7E	2024-01-31 8:38 PM UTC	20 OSMO	11.248193 AKT

The threat actor then sent these 11.248193 AKT tokens to Akash address akash1y9ywn8mlsmn6jxujwh08xsevfe60t30grf7up3 (**akash1y9ywn**) on the same date.

Table 10:

Transaction Hash (Osmosis)	Date	Token Transferred / Received	Receiving Transaction Hash (Akash)	Receiving Address
C4A70C2A091D34032A91EEEA3CCB6CD3A5619E0FD0A15467FC3E4B619B1607DB	2024-01-31 8:44 PM UTC	11.248193 AKT	F7758EC70E7F810DE67135517DC79FF363DD02F6A25259960097289665DA45BF	akash1y9ywn8mlsmn6jxujwh08xsevfe60t30grf7up3

Then, still on January 31 2024, in two separate transactions, the threat actor sent 6 AKT tokens to Notional-controlled address: akash1083svrca4t350mphfv9x45wq9asrs60c956m2m (**akash1083s**).

Table 11:

Transaction Hash	Date	Token In	Receiving Address	Blockchain
ACE2D781FCA0B47E07418202A9B04A30564F81A7616ABDDBCE45D810E49B2AB1	2024-02-01 10:54 PM UTC	1 AKT	akash1083svrca4t350mphfv9x45wq9asrs60c956m2m	Akash
B59A8A1EB44C09D0C068EFF9390628FC6F1FE907DEAEF8EBCA4E5B0DE9F42826	2024-02-01 10:54 PM UTC	5 AKT	akash1083svrca4t350mphfv9x45wq9asrs60c956m2m	Akash

4.248193 AKT remain unspent at **akash1y9ywn**.

As reflected in the above tables, the threat actor continued to transfer the stolen funds from the Celestia and Cosmos blockchains to its **osmo1r0ct** address on the Osmosis blockchain.

On February 1, 2024, at 6:23 AM UTC, 10 OSMO tokens were transferred from **osmo1r0ct** to osmo1y9ywn8mlsmn6jxujwh08xsevfe60t30gxfqtwe (**osmo1y9y**) via transaction hash: 967A34A31A62D7BA7CC96EEADFDEBFCA14A65A7ED55AB805608C27C6ACD3CF24

osmo1y9y transferred ~5.01 OSMO tokens back to **osmo1r0ct** in the form of 9 transactions. **osmo1y9y** has a balance of 4 OSMO tokens. Below is a table, **Table 12**, showing the transfer of funds from **osmo1y9y** to **osmo1r0ct**

Table 12:

Transaction Hash	Date	Token In	Receiving Address	Blockchain
A66BCC0F928C80D718F37664F97CEAC1A283C9EA04255A3E12256E66F0653B9F	2024-02-01 10:07 AM UTC	0.566789 OSMO	osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d	Osmosis
CC41C54F39CF45888D3B2D1DF723C819C5D90AD7A8080DA15F96B215294B	2024-02-01 10:08 AM UTC	0.566789 OSMO	osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d	Osmosis

BA05				
0B94C44027C5D81E10D1CD9F2176C4A6AC72D160188787F825DE6FE0DBABF280	2024-02-01 10:09 AM UTC	0.566789 OSMO	osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d	Osmosis
3B70CDFCF3411A080FE9E0F49A36DE417EC7FD8F8D41234784B6DB1B86689BAF	2024-02-01 10:09 AM UTC	0.566789 OSMO	osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d	Osmosis
C84DC9CB01C7092DE6330789D9609C15C0D24DF3DFAE87C5D0BB63C88925F1C1	2024-02-01 10:09 AM UTC	0.566789 OSMO	osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d	Osmosis
8440BBD7909A76810B4AF261DEC69EAB91CF176CFCD512E26823682923346B72	2024-02-01 10:09 AM UTC	0.566789 OSMO	osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d	Osmosis
D475DA1D8A9D8F6E2A1296950DA0B5FD0B37D3A132532980C8DFF1C9ABE75530	2024-02-01 10:09 AM UTC	0.566789 OSMO	osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d	Osmosis
F34FCA7757D55B023ECB181F472C119263E862D81F06027335D08B024FACBF13	2024-02-03 9:45 AM UTC	0.566789 OSMO	osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d	Osmosis
81608B9A2C0C0F7293F073CA30D8C895E8324852BC64F039B710392A79A3C334	2024-02-03 9:45 AM UTC	0.566789 OSMO	osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d	Osmosis

On February 3, 2024, in two separate transactions, the threat actor sent 30 OSMO tokens from **osmo1r0ct** to osmo1q0w3uu5lawc343azvsls9zlr4r4zectvr85u2v (**osmo1q0w).**

Table 13:

Transaction Hash	Date	Token In	Receiving Address	Blockchain
274767512B9277D60934B415C7C6581ABD25BA569C17FF02C1DD76D299EF953B	2024-02-03 8:22 AM UTC	10 OSMO	osmo1q0w3uu5lawc343azvsls9zlr4r4zectvr85u2v	Osmosis
15F47429879B58D98CD2F367215D11D55CF43BA7CCE0EE875FB7C4FDC6876D14	2024-02-03 9:45 AM UTC	20 OSMO	osmo1q0w3uu5lawc343azvsls9zlr4r4zectvr85u2v	Osmosis

Between February 3, 2024 and February 6, 2024, 16.45 OSMO tokens were transferred from **osmo1q0w** to osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n (**osmo1083s**), a compromised Notional address.

Table 14:

Transaction Hash	Date	Token In	Receiving Address	Blockchain
DDF62B5C716A906AE9A9A7266AE873699A79B907FE52CE9F196F51810986ECA8	2024-02-03 8:49 AM UTC	0.5 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
97E5CFA67C7959A5BBC2620970AA99B2A908749D78EAA91C17A72B09CD96	2024-02-03 8:50 AM UTC	0.5 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis

8E09				
B04CEE8CBA6D466263C5A0F60F6ECF80030F3088092E77FA0128CCF6EB977DE3	2024-02-03 8:51 AM UTC	0.5 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
1E292B63D46FD6048132FB96808D290F6CBAFEA624B62BAE0EAA1E4748F13F09	2024-02-03 8:51 AM UTC	0.5 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
85D5170674B763ED7EA8AF119185EB0B9CB2B26D111065A827C31DFE43D7ED45	2024-02-03 9:06 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
C9CD58F502B22797145AE99F8E10AAC190952B9C19F69514D3754175125CC775	2024-02-03 9:06 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
54B183E3C44F508EAA57B8D3F39DD99D1A7E9216E060C134445B8AE434181A64	2024-02-03 9:06 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
8023F1BFB12653D849F7089D4A910EA11B3880B5BAC22EC3C1B17DF9F6D570A7	2024-02-03 9:06 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
0757BFFFB08D511651A36EB5C8B3B0CA80FFE7CC66160E5FD2A71311B634D859	2024-02-03 9:07 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
C71CA270C0A5F5A0CCE62A0E77149D6ABF411E234BE64763C8F1DD88854BD884	2024-02-03 9:07 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
FB670107E485DC43390EEE74014577F8312D60A8995BCD828B447310F228BB36	2024-02-03 9:07 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
5378AA63DB63EB4FB0A527BFA499EF685F794C65E31435C6FFEFE0E17DD4C857	2024-02-03 9:22 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
250EAFFA00315F46BD8137776D78CEDD92B2AF9EA98ACE80F2BE3BEC1A242C9C	2024-02-03 9:22 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
F66ABC931F322FA816379731E50BD994B93F18D11F29E8F9A4A879968D240958	2024-02-03 9:22 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
2428DA8AAA8148C6A73F38655BC20B116224AC516F8B3520E7A2797E575A5E13	2024-02-03 9:22 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
53232C1CF2D33475799DA9AF3145A5AB25E60EBFCF4AA2DFC98447AC99F7F8D0	2024-02-03 9:23 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
EBCEACBB4D605168EC55DF2F72F51876F19D1BBF2BE040EA5232ECB49736F7B2	2024-02-03 9:23 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
739B044D019240C859636420A4C4D1A9202C88435F2CE85A5882C47F109CBD04	2024-02-03 9:23 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
25B6E9EDFA829F3332D2FF2CC1AE4725ACF8FE7E8F0AE9CEEA946ED8EF2ED40C	2024-02-03 9:23 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis

5B0DFECE0950D162B8FA06785E8C1EEE0B836906CCDB9A1ABE959A6FAB1BE823	2024-02-03 9:26 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
F51C8BC55577DF048F87E4D5B9ADB2C416EB7173145F0B9016CAFF5CB0DF9F10	2024-02-03 9:26 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
AE42FB3FB391D2B675331CF8BF1A33CF28EEEC748D64813D88A4CC74245489F0	2024-02-03 9:26 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
FF58B56A19FF8AC59446D3D7CD51D3C4B415469AC12559BA901C49716488CDAF	2024-02-03 9:27 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
369084FF12BEE1B47E6372F8FAE22A7157646748158D4BB121AE8532F8AA0E2C	2024-02-03 9:27 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
78F7FAFF8F110AA3C962AF09E05DDBB7AA4AF2C2186CC3CAD70E3A6484E797C8	2024-02-03 9:27 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
425BC41671D0F7D485B18220E7C46126EF3105F10A0F8CCE7EB115745308FD11	2024-02-03 9:27 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
3A63F2E97F5A7B63165FA22F05336BB15AD2BFF6FFAF6CE9000FFDE733580A95	2024-02-03 9:27 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
5663E411BA9C8509A0DB74EE2B96E8FCC8E03EF05FEF494C8BC6FA3D462CDCE3	2024-02-03 9:27 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
6615DA220FB11C0D61CB5B84B41B23287D46709C766CC778266DAE1FA3A343FE	2024-02-03 9:28 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
095BC07BACFEE2FA20CD3B3E8CCD1D13689E13F3248ABBC5E293D9DE74306491	2024-02-03 9:28 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
3869B857FC6FF83105BD6C174866C2F58FA6697A0BA805F91B90798C92922324	2024-02-03 9:28 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
34A4A66C4AEF8A672B35030C457B48F13735F4D4F9E4D4F9190274CBC1496FAB	2024-02-03 9:28 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
AD5A28F3CD3A718DEC4A7255DBF490C870DE6BCFD6841C23008211A0DA9117A6	2024-02-03 9:28 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
8CABAF403D960C626CFD6908AAD58E1ACE4C2761127479837B262F40259E7D50	2024-02-03 9:28 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
A4AE0C20C7A5EDDB9B2A7CC08908C5E88F0748B418BB7AED60DCE14FF5B1F2E6	2024-02-03 9:29 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
44B9172FEE7AB981F314D18119D1DB2974D669256C9AB85DA0F1C4231F7C9D25	2024-02-03 9:29 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis

540A418293AC125221247969B0E0DED9F5F13BFBDC4FAE290BD5F2B1F8D9A03F	2024-02-03 9:29 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
0729111FBB248A137FA2F083CBEFA813E5F955131268B11DE1E87AD779EA7F36	2024-02-03 9:29 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
ACB8E782309140030F970D11C1643A3A87DC79CBAA3B6EFD8356C73E541FE984	2024-02-03 9:29 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
9B7FBA9BF4941F361071A741A823E821762FAFA7DDB07AD07E4A01A2342F8272	2024-02-03 9:29 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
5D8399CD523968FAB08A2D8897B5D27FD191A037341D4524E6C6F243C5F18C12	2024-02-03 9:30 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
4D9C0CA2F740963ECF7634AA21D9B624E2D1F0BEA7FBBE3865C93A5DF604B4F1	2024-02-03 9:30 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
B7D525944CCA19B66A194F45A6E9A11CAF568BCF484CCC14E51FA236EDC9DD49	2024-02-03 9:30 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
6863E150A7486EC57D0CE20BA0950F24DC2BBEF874A94762B21E30BFB4E841C0	2024-02-03 9:30 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
093DBA38075CB83EC8A607140C22B15EED21869A316F8793F067901AEA076061	2024-02-03 9:30 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
859B427E83DA4434FA03F18930351D6C38BF482EC1C2FA108DDF8F80C92598C2	2024-02-03 9:30 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
80FCFBE9F3477FC8EBC48FF59F6952DFB7AF6CD1E246FEA7D9FAE4D4C7A96D67	2024-02-03 9:30 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
5BA832CA6CFB1DCE80AF455D9C3CB51E99C34203293E98A98047CD0195D85134	2024-02-03 9:31 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
1E5A1C6F42FB6D4DF6D97DFA506CC4A9A4BB8AB0509423EF79216A965B7FBCB0	2024-02-03 9:31 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
E892A74A162F807928E13E4A71B942A8FF185D0ED12444E1E7E08A8A238263FB	2024-02-03 9:31 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
8E236660CB12B34DC6410AD79DA452E142CD8E326191443092DCF96E257B8E77	2024-02-03 9:31 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
789DFAE32ED9D2F7EA0AFE068602E35681CA6BB605862C11FEDC49F168163ACD	2024-02-03 9:31 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
6CECC14E70DE43CCFA890118824A019CA388D5B395AC9885AC84ADF27AB96356	2024-02-03 9:45 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis

DF450A59A8CA94B35E0E95B1BD6A955E75D93FFF96686C4F2DF5A032130E44E0	2024-02-03 9:45 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
C9D7EB0DC6F3D7F98C4DA3ACBB88E16A13E1BE6D96162802E86EEA12A37E62EE	2024-02-03 9:46 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
2F0A8F5F1B6D1D855346D4C52371145F2EC0673F94CCB549E7EFEB1D609358FC	2024-02-03 9:46 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
1A7F958EB515E3E6B52D9665C02B4785EEFB03348B45127BA023FD2EBB656122	2024-02-03 9:48 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
3ECC602137F0E3473D0DF09415BF26D977FA609ACEA6B96F248B523E32D3CBD1	2024-02-03 9:48 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
57374D2789D8AD121B70139F663D053058144A0B2928EB14E3933D7B75DAE87F	2024-02-03 9:49 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
A9739CDD80C061B615B4330A433C22A2CC6DD81BC26C678E2C69B0FE3B1286DF	2024-02-03 9:49 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
F155747612368A69B962060DD268EC07B251216E0FB1ED89304165C5E6DFE56F	2024-02-03 9:49 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
5EC3048040CDA9B6832EC25D6EB94AC1F6B4C8713DF14C1884DBD5C0569D5563	2024-02-03 9:49 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
A8C9E5BF209FC9430726993A395BE490BE921791DE10AAF03FB6DDFBE8898A24	2024-02-03 9:50 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
E11780968C7166475082E5EA02A1AD4230DD7DE9DB5251F4636E3459C1A68D0C	2024-02-03 9:50 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
B28297B2D9CA1505AF80558E353EE57C8F0371FD786417D040EA4CA5BE39D316	2024-02-03 9:53 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
55308913945C7F80E91670E7A73CB5F0EB359740653D166AA63A03CEE5AC75B8	2024-02-03 9:53 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
CF87B71A47472087B544B02131CC407742B8A9FEB236CC6166F6FBC9959F13D2	2024-02-03 9:53 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
D14867687B57C4CAC1C2A784990AD6E6AF23D1B5185F9EEA58F1610CF6F709D7	2024-02-03 9:53 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
CA79E040ED3373A5B81A6653B5D11DA69F16D10CCBA68DE854778820038418A5	2024-02-03 9:53 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
2AA891C11AA0B6FF72B236FF7C41FE36ACD397C2E84B9F5330B69F03042F1F3A	2024-02-03 9:53 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis

2AFC3AD84B3081FC26C79EF6CE40F3056DD0249274C54CD3AE01B03D832B82F4	2024-02-03 9:53 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
DC851BAE0F40A06FBF43B701F4965403BD42F6DE3440A29D416FE8D8A0EFB423	2024-02-03 9:54 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
8AD8D0B8215CF61BB32AA6779EDE72DC5928849ECAB3C4FDB7A0FC42E1B3839E	2024-02-03 9:54 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
E5F99DA466014BB0149EF16B40A2B7FF0A0EDDAD0505DCE313E992BE3F508EA9	2024-02-03 9:54 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
4E1B9EFCD7ACD35CC72C02E708DEE5A50BE16DC8689A2252B00128D59017FBA1	2024-02-03 9:58 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
5779C9CD2E1961D01767D1D91B2D0CDEA03161B7E78E83A0AA5A4969A88B8557	2024-02-03 9:58 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
FC8A7828465C7CA709DAD668E74E69A7BB7BAF41B295ADADB0DAF84367AC0715	2024-02-03 9:59 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
4E20424A70B25EC6A4DF9607784E68B55F80DEAC5B0D207E57185ECD2ECA6168	2024-02-03 9:59 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
5DAFCD6E74A220B05CF5BFE82DD59DD0707BCEC43DE0D57BD328416A7BF7572E	2024-02-03 9:59 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
267312AB33A1E81097B2D6B7BAC02CF489F3534BBB5FC33F0F65E03CC7026CB1	2024-02-03 9:59 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
841C374ABE6C330715DAB5B33E8541C377106C199B064C66A1A0933D1E285DC6	2024-02-03 9:59 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
9A9136DDAF730288B2567F259E5BF651ECCB92CCDE1BFDEABB488DDFCA8F1B91	2024-02-03 9:59 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
6459D058B1CCDCF4D60C6449A7A4C0D9F5BCA3978DFEA5DDEA7717C3BE67409B	2024-02-03 10:00 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
5F8D23D1405137E9DCADEB04D30102DF9F28BCB5506D7B2347A95D4923582162	2024-02-03 10:18 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
AAC981B9CF3FB65741C41877F774490E681465B230DFEB45C193C71152E9A6D2	2024-02-03 10:18 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
1C3BF305A9C6CB3987F3BF8C06FAA8BE3D1AE330647B84A763767411AE728255	2024-02-03 10:19 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
E6439A207C1786EEAEFB67D55F61BDEA411E0C28B83CA093BA6C18423470BFED	2024-02-03 10:19 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis

D2AEAE50EF758954658FFA3C42A111E8367306D1611366CCC506AD439E617979	2024-02-03 10:19 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
E2F79F3030DBA21132CF05F9B0439682D82D425B8FA2D0D1EE839C642399D226	2024-02-03 10:20 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
71A6C38DD0F00342A8664E00484A4AEEBFDD11533997A580D7E1628E725E1470	2024-02-03 10:20 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
0DD80B22F691AE80122B86DE0957A6E72BB3540E05AC65777D0DA6B7BF68FB62	2024-02-03 10:20 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
A67E8A5CA94B2FABE2FC819709F7597760CBDC339E80A080EDB0B12FF800C65F	2024-02-03 10:20 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
9C081087C9AD11816C008103A50201A4953C78A8996AFD64A0A84069F02D759B	2024-02-03 10:20 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
88BB10349A42963371A664E87EB6E6511D3FBD44889FBB11FE7B1C048CAC89CA	2024-02-03 10:20 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
67A7541B0FD6B2EF8958F6F646AF7F0628C87150FA8FF8897FC1863A10A98677	2024-02-03 10:21 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
199842CE33E3C6240AAC6307E678D4B03BF8744DD9DCF9DFD6BA7C38EE2F9ABC	2024-02-03 10:21 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
5B23BF14893043B2A54CB669C5D02C0129F56BC83BECC5BCE654BCFA3A98F96F	2024-02-03 10:21 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
B48F2B008A125A6ABA1069D9FF2A7812236C93A4EF686A88570E4B93A44D396A	2024-02-03 10:21 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
E4164382C5D50FC06DB19067755D48413CFC30211FFABA42B12F573932C7366C	2024-02-03 10:21 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
6650DA2486723424F2AF8614D43B74603D79F7CF4A164D9496535A120C4DFC65	2024-02-03 10:21 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
F5FADF78901C5FDF9D71CBE1D2E3D0579A12110CF1E59649D9A06B933A711018	2024-02-03 10:22 AM UTC	0.1 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
313632F893CFD5239577E447ED5872F6CCB7851A3996EB310C8B252D099CC6BD	2024-02-06 8:08 PM UTC	0.95 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
E42E2412D3863B91DC19468542ABAF78F431BE9E4586E9CF9DCCB3942B12D6D1	2024-02-06 8:14 PM UTC	0.95 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
F9B88D0BDB27B13FFC2F89EC9FB2EB77D9EA1DFEDA74C628D2EF43BC2C8553A2	2024-02-06 8:16 PM UTC	0.95 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis

E5926E2F6C3549238D0F0ADDAAF3EBA20415A039B92DF4D88219E82C179992B1	2024-02-06 8:20 PM UTC	0.95 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis
074FDFD07FD4FD799EDD311E53F1A1160247D9B26C19B3FCB4E9A23ADE16C176	2024-02-06 8:40 PM UTC	0.95 OSMO	osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n	Osmosis

A portion of the remaining 13.55 OSMO tokens was spent on fees associated with the various transfers and swaps. As of March 4, 2024, 2.317886 OSMO tokens and 7.772664 USDC tokens remain in **osmo1q0w**. It is unknown why the threat actor sent funds back to the compromised Notional address.

Table 15:

Transaction Hash	Date	Token In	Token Out
7B2927E41DA58B095E469FAAFE33287AB71E6BADE7CDF57565D2CEA257349A46	2024-02-06 3:38 PM UTC	5 OSMO	7.772664 USDC

On February 8, 2024, the 14,940.951772 OSMO tokens were swapped for 10.161731879486778000 axlWETH tokens.

Table 16:

Transaction Hash	Date	Token In	Token Out
7AD6159DF81D33F40F940144B3CBDA7001E688BF61BF13E016EE023FF624C117	2024-02-08 12:37 PM UTC	14,940.951772 OSMO	10.161731879486778000 axlWETH

As of the date of this report, 9.834 OSMO tokens and 4,000 TIA tokens remain at **osmo1r0ct**.

In addition, on February 6, 2024, at approximately 2:27 AM UTC, 18,999 OSMO tokens were stolen (~$29,658 USD value at the time of transfer) from the compromised Notional wallet address **osmo1083s** and transferred to osmo1zhmjn600jd3ptl00xd6y38gn83m84ea2fsyxes (**osmo1zhm**) via transaction hash: 6070FBDC2E701DB02F004DB81DA12CA326D51B36285FE465923959A01429A5C0

On February 8, 2024, the 18,999 OSMO tokens were swapped for 12.745 axlWETH tokens and then bridged to Ethereum address: 0xdEFC7872051Ea8CB160157C23af51E18c013b1Fb (**0xdEF7**). The following table,**Table 17**, references the OSMO token swap conducted by the threat actor to address **osmo1zhm** in which OSMO tokens were swapped for axlWETH tokens directly.

Table 17:

Transaction Hash	Date	Token In	Token Out
0C2C42268808FC18CF81732EFC3F3C35F73DA8846731DD15691E524864246345	2024-02-08 1:05 PM UTC	18,999.743125 OSMO	12.745591088895312000 axlWETH

Figure 11 shows the initial movements of the stolen funds on the Osmosis blockchain.

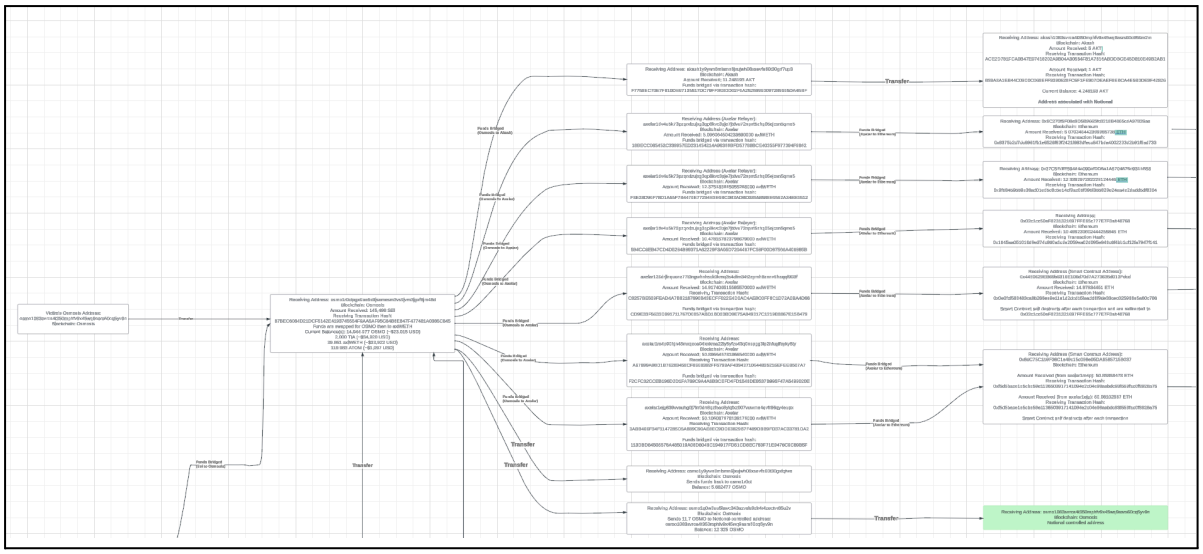


Figure 11: An illustration of the initial movements of the stolen funds from **osmo1083s**

V. Post-Osmosis Movements

osmo1r0ct and **osmo1zhm** were the addresses utilized to swap and bridge the stolen funds from Osmosis to the Ethereum blockchain[10] utilizing the Axelar.Network.[11] The following table references the conversion and transfer of the axlWETH tokens to Ethereum tokens.

Figure 11 illustrates the flow of funds from **osmo1r0ct** and **osmo1zhm** to the Ethereum blockchain via the Axelar.Network.

Table 18:

Transaction Hash (Osmosis)	Date	Transaction Hash (Axelar)	Token Transferred	Receiving Transaction Hash (Ethereum)	Date	Token Received (WETH)	Receiving Address
895F85861C3764E0D017CD9D4D5832B2A869E1EFC6102EE2D63B0532E9D62527	2024-01-12 7:06 PM UTC	18BECC085452C339957ED231454214A98366BFD57788BCE40355F977394F9862	5.096064504233690000 axlWETH	0x9375b2d7dc6961fb1e6526f83f2421f983dfecc847bda4002233d2b91f5ad733	2024-01-12 7:19 PM UTC	5.070346442336998 WETH	0x6C270f5F08e9D5B9665fc8218B4865cdA97826ae
B07BEE75299DE4DA5ABBFD02EB42891E	2024-01-19 7:06 PM UTC	F8E28D96F78D1A55F7B4	12.37518366505526	0x9f68459569e38ad01ed5c8c5e14cf	2024-01-19 7:19 PM UTC	12.339297282 2281 WETH	0x37C5EdfE594d4a090efDD6a1A

[10] In some instances, when funds were bridged from the Axelar.Network to the Ethereum blockchain, some funds were sent to "self destruct" smart contract wallet addresses. The function of the "self-destruct" in the smart contract code would allow for the smart contract to send any contract funds received to a designated wallet address. The designated wallet address contains all of the funds initially received by the smart contract address, leaving the smart contract address balance as zero.

[11] The Axelar.Network acts as a bridge allowing tokens to be transferred from one blockchain to another via their network. In this case, funds were converted to "axlWETH" tokens, which allows for tokens to be used on the Axelar.Network which were bridged from a non-Ethereum blockchain to the Ethereum blockchain.

BF5CBA230585343A99855B7A5F642706		476E77294E3E6BC0B3ADBD38558588E6552A34EE6512	8000 axlWETH	9ac06f096f365829e24ea4e2dadd5df8304			5704676c931bB58
94D8E6DFC922687AACB068E4F6BB3510CFA363B7855126C2470516D9CC2A4D7A	2024-01-12 7:06 PM UTC	C8257BE509FEAD4A7B82167690B43ECFF022E4D0AC4AE8C0FF6C1D72A0BA4D66	14.91740651558557 0000 axlWETH	0xac89a17f9357a30c93e5c7f0205107fb579c11e45f366e0cd7c4ae4e3ef456bd	2024-01-22 7:18 PM UTC	14.879344515 5855 WETH	0x4480629EB69b6316E106d70d7A273635d013Fdcd
594CC6EB47CD4D5284B89371A62229F3A05D7204467FC58F00D87566A406885B	2024-01-23 7:08 AM UTC	890703934C6F0E12CBF3DE09001E6B67B5EDBB1BE46283ED95A11ECC460A469A	10.478157 82379867 9000 axlWETH	0x1645aa051016d9e374c860a6cde2059ea02d095e946c6f4bb1cf12fa7947f141	2024-01-23 7:24 AM UTC	10.469230602 4442 WETH	0x02c1cc50aF82 31321697FFE65c777E7F3ab487 68
A67899A98D1B76283458CF8668392FF5799AF43943710644835216EFEEB507A7	2024-01-24 8:14 AM UTC	710427128D2AD28D71D52809335BD057CE44F356849E90CCAF14790E6E07629F	50.896646 78196654 0000 axlWETH	0x98ba8e4f3400799d6383ce722529d471596a3cf8ae1fc182eb624492f7bdc61c	2024-01-24 9:18 AM UTC	50.858584781 9665 WETH	0x6dC75C1b9F36C1e49c15c098e05DA6585715B037
553D2895275A3B31AD8BEE2767E79E2449C74F7B70F3602DEA71C8FE65E3DFBC	2024-01-27 7:42 AM UTC	3ABB466F34F1147285D5A889C90AE8EC9DD63829B7F489DBB9FD37AC33781DA2	50.106087 67813917 6000 axlWETH	0x11e4c407911281df87f684018b901a5578083eae54bb855dd15fe47c4e14d7b6	2024-01-27 5:58 AM UTC	50.081025678 1391 WETH	0x6dC75C1b9F36C1e49c15c098e05DA6585715B037
4EBD4AE0634E90CC997C4A0E7B22FB80B0265A75885550E04F635BE9495EE2BC	2024-02-08 1:03 PM UTC	FB3B0CB34FEA1CDD55FD9ACCF7CE6EFED83C039CC17B73A682EC561BFB2289AB	150.009743 2036734 20000 axlWETH	0x31adbbdefc26be404f760dda9bc6dc15aea6d268439baa4e9efcf89746b0659f	2024-02-08 1:18 PM UTC	149.984681203673 WETH	0xdEFC7872051Ea8CB160157C23af51E18c013b1Fb
64B1232F6B95C71B568730163BB5458BF7E1EEF64B9131A731D390ECD29AB162	2024-02-08 8:19 PM UTC	79BC8F12D4E25F0B9ADB1ABC3369900254B62DC120BC4EAC46B234CC7BB95765	49.488131 89436571 5000 axlWETH	0xa6e1303e7acdb4a62e902cbf91db3c2273f42a85e24c1d3de49b4228310eb9d7	2024-02-08 8:38 PM UTC	49.463069894 3657 WETH	0x6dC75C1b9F36C1e49c15c098e05DA6585715B037
1AC3CFD2509B3F11C48516DD70089DA616795DD76AA13785A586E3668D55702F	2024-02-08 1:06 PM UTC	0893BDA1A9B3809B52707A64063F8BA1EBD49CBD41B262FB493E019298371207	12.745591 08889531 2000 axlWETH	0x31adbbdefc26be404f760dda9bc6dc15aea6d268439baa4e9efcf89746b0659f	2024-02-08 1:18 PM UTC	12.720529088 8953 WETH	0xdEFC7872051Ea8CB160157C23af51E18c013b1Fb

Figure 12 shows the movement of stolen funds from the Axelar.Network to the Ethereum blockchain.

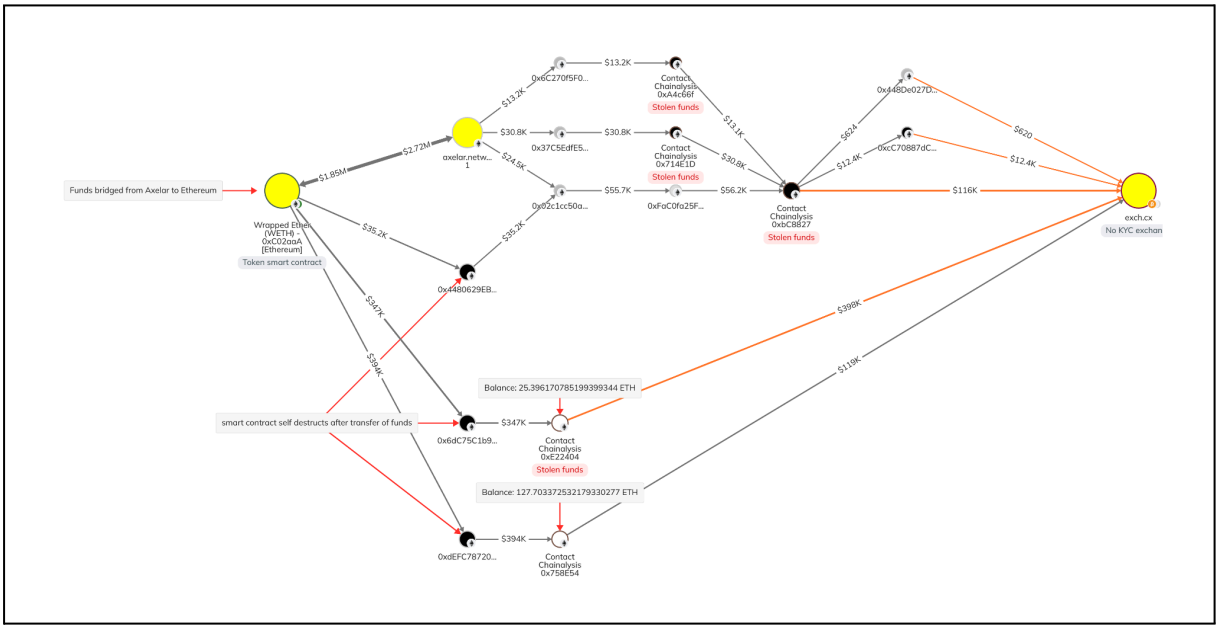


Figure 12: An illustration of fund movements from the Axelar.Network to the Ethereum blockchain.

VI. eXch.cx Deposits

The threat actor was able to transfer ~356 ETH to five Ethereum addresses. Of these five addresses, funds consolidated at three primary addresses:

- 0xbC882735bedd79F247D407260C3db8E6f2184159 (**0xbC882**)
- 0xE2240450744f67DD61289A6071c9E72411F20105 (**0xE2240**)
- 0x758E54d88BDAb00bE93e89800D894ffdfF0c63C5 (**0x758E5**)

0xbC882 also utilized the following two addresses:

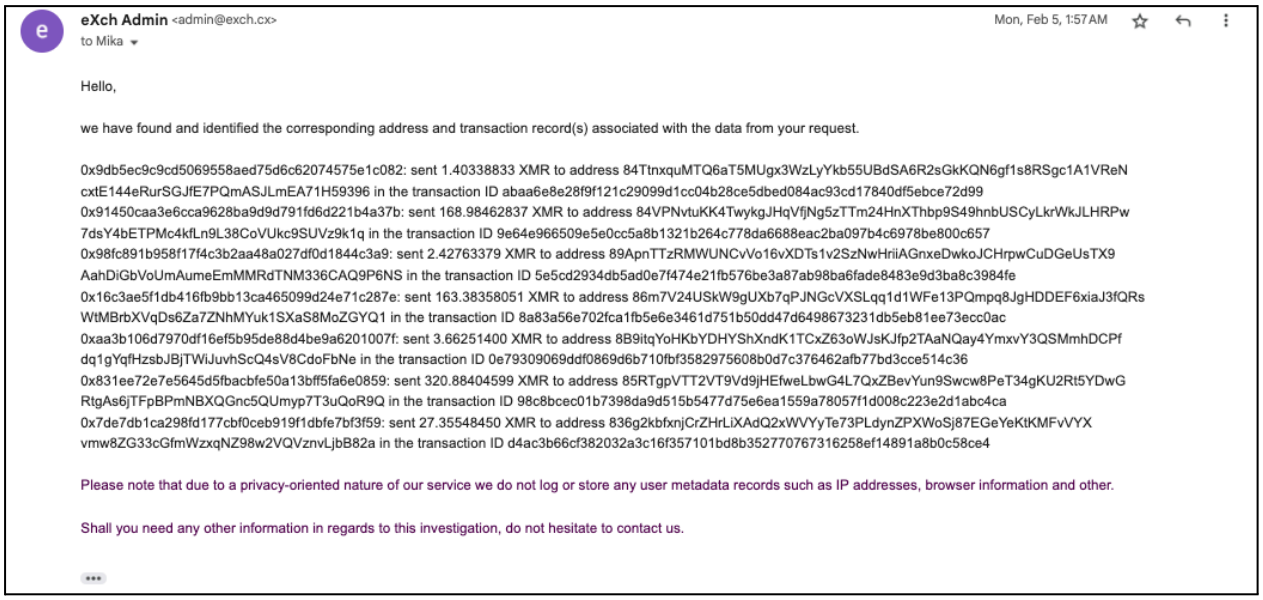
- 0x448De027D77EB8c5D7fff3eE1DD2f33C79Dc5877 (**0x448De**)
- 0xcC70887dCd2715051866532931c5d50228DF3cd7 (**0xcC708**)

Via **0xbC882**, **0x448De**, and **0xcC708** the threat actor managed to deposit approximately 54.77 ETH into **eXch.cx**. **0xE2240** and **0x758E5** deposited 160 ETH into **eXch.cx**.

The threat actor sent 214.771148 ETH[12] (approximate ~$649,525 USD value) to deposit addresses at swapping service **eXch.cx**. This service is notorious for allowing threat actors to swap illicit funds for Monero (XMR) tokens. As the service is an instant swapping service and does not allow for direct off-ramping (crypto to fiat conversion), it

[12] Of the 214.771148 ETH sent by the threat actor to eXch.cx, only 202.7490618 ETH corresponds to Notional's theft. ~12.022 ETH does not correspond to Notional's exploit and the source of these funds derives from eXch.cx.

does not collect any Know-Your-Customer (KYC) information. As **eXch.cx** stated directly to Chainalysis, in Figure 13, “Please note that due to a privacy-oriented nature of our service we do not log or store any user metadata records such as IP addresses, browser information and other.”



eXch Admin <admin@exch.cx> Mon, Feb 5, 1:57 AM
to Mika

Hello,

we have found and identified the corresponding address and transaction record(s) associated with the data from your request.

0x9db5ec9c9cd5069558aed75d6c62074575e1c082: sent 1.40338833 XMR to address 84TtnxquMTQ6aT5MUgx3WzLyYkb55UBdSA6R2sGkKQN6gf1s8RSgc1A1VReN cxtE144eRurSGJfE7PQmASJLmEA71H59396 in the transaction ID abaa6e8e28f9f121c29099d1cc04b28ce5dbed084ac93cd17840df5ebce72d99
0x91450caa3e6cca9628ba9d9d791fd6d221b4a37b: sent 168.98462837 XMR to address 84VPNvtuKK4TwykgJHqVfjNg5zTTm24HnXThbp9S49hnbUSCyLkrWkJLHRPw 7dsY4bETPMc4kfLn9L38CoVUkc9SUVz9k1q in the transaction ID 9e64e966509e5e0cc5a8b1321b264c778da6688eac2ba097b4c6978be800c657
0x98fc891b958f17f4c3b2aa48a027df0d1844c3a9: sent 2.42763379 XMR to address 89ApnTTzRMWUNCvVo16vXDTs1v2SzNwHriiAGnxeDwkoJCHrpwCuDGeUsTX9 AahDiGbVoUmAumeEmMMRdTNM336CAQ9P6NS in the transaction ID 5e5cd2934db5ad0e7f474e21fb576be3a87ab98ba6fade8483e9d3ba8c3984fe
0x16c3ae5f1db416fb9bb13ca465099d24e71c287e: sent 163.38358051 XMR to address 86m7V24USkW9gUXb7qPJNGcVXSLqq1d1WFe13PQmpq8JgHDDEF6xiaJ3fQRs WtMBrbXVqDs6Za7ZNhMYuk1SXaS8MoZGYQ1 in the transaction ID 8a83a56e702fca1fb5e6e3461d751b50dd47d6498673231db5eb81ee73ecc0ac
0xaa3b106d7970df16ef5b95de88d4be9a6201007f: sent 3.66251400 XMR to address 8B9itqYoHKbYDHYShXndK1TCxZ63oWJsKJfp2TAaNQay4YmxvY3QSMmhDCPf dq1gYqfHzsbJBjTWiJuvhScQ4sV8CdoFbNe in the transaction ID 0e79309069ddf0869d6b710fbf3582975608b0d7c376462afb77bd3cce514c36
0x831ee72e7e5645d5fbacbfe50a13bff5fa6e0859: sent 320.88404599 XMR to address 85RTgpVTT2VT9Vd9jHEfweLbwG4L7QxZBevYun9Swcw8PeT34gKU2Rt5YDwG RtgAs6jTFpBPmNBXQGnc5QUmyp7T3uQoR9Q in the transaction ID 98c8bcec01b7398da9d515b5477d75e6ea1559a78057f1d008c223e2d1abc4ca
0x7de7db1ca298fd177cbf0ceb919f1dbfe7bf3f59: sent 27.35548450 XMR to address 836g2kbfxnjCrZHrLiXAdQ2xWVYyTe73PLdynZPXWoSj87EGeYeKtKMFvVYX vmw8ZG33cGfmWzxqNZ98w2VQVznvLjbB82a in the transaction ID d4ac3b66cf382032a3c16f357101bd8b352770767316258ef14891a8b0c58ce4

Please note that due to a privacy-oriented nature of our service we do not log or store any user metadata records such as IP addresses, browser information and other.

Shall you need any other information in regards to this investigation, do not hesitate to contact us.

Figure 13: An illustration of email communication between eXch.cx and Chainalysis regarding their privacy-oriented nature.

The following table, **Table 19**, shows the 14 deposits into **eXch.cx** (in relation to Notional’s stolen funds),

Table 19:

Service	Transaction Hash	Date	Receiving Address	Amount
eXch.cx	0x071fb05438bfbe9e3c4e5cf6b077cc506242ed0b16b2939f0659d8928904867e	2024-01-12 10:43 PM UTC	0x9db5Ec9C9cd5069558AEd75d6c62074575E1c082	0.101 ETH
eXch.cx	0x256f060eceae5d47359be091d404aac50a0420dd8fe8dbf3828d99203a0631e2	2024-01-12 11:11 PM UTC	0xdae2c16DD347baaA32C8f8cb8bfCA091f3DAe254	4.966246323436444738 ETH
eXch.cx	0x02c278ba91886a8acc76cd7e14621f158ae905db71a767d3292d0b82e94b7d5a	2024-01-19 7:43 PM UTC	0x91450CAa3e6CcA9628Ba9D9D791FD6D221B4A37B	12.1616 ETH
eXch.cx	0xd081b8debfb95ce928e1060d56172e1dbff3d8ed2e912117b2e94fa6dd411309	2024-01-19 7:46 PM UTC	0x98fc891b958F17f4c3b2aA48A027dF0D1844C3a9	0.174713590407098446 ETH
eXch.cx	0x0e7d3aa5aa5becf1f7fdf476a4fa3c4671a57d4cb33820767792bdda3a13931e	2024-01-23 4:21 PM UTC	0x831EE72E7E5645d5FBaCBFE50a13Bff5Fa6e0859	23.0936 ETH
eXch.cx	0x2eca94757544238bc30c409d3903b6357ab3ae911228f35d99bbe74bc53763ee	2024-01-23 4:26 PM UTC	0x7DE7DB1CA298FD177CBF0Ceb919f1DBfE7bf3F59	1.971 ETH
eXch.cx	0x89aa41e23d65e44f893102e79fc	2024-01-23	0x9f16B1904B2E1fB54528	0.28090184983

	ac03ffd9b3f37a61f6cf5915021047913de72	6:39 PM UTC	1d10c2c294a5d98fd7a5	8917798 ETH
eXch.cx	0x0ad04e56fcf9c671e7259277d1e70204794dbd7ca2681e939dea9b8968269a1d	2024-02-08 12:05 PM UTC	0xA41a2F04622D41BC8E3dF3ac636774eC4753074D	5 ETH
eXch.cx	0x8efc741f0bcc2126250326938ca8854b22cab64a7401532aaef288fdef47d13b	2024-02-15 6:35 PM UTC	0xa6f5CaB11E752F8995D1f8D008b4D259BF6D6F63	40 ETH
eXch.cx	0x4561afbef09df716967277b8dac4cabbbe33ba9adfb11629d03f1efb638db93b	2024-02-25 9:22 AM UTC	0xf047075aC138A3146a462Ebb6253ddB25b803b96	5 ETH
eXch.cx	0x9403e360d95c1b6ba6863a4c1d60ab29141304aa249891cae8ce6e724e96f6b4	2024-02-27 1:49 PM UTC	0xAFC8584eC01eb359b360A808B02AB40836f25D3b	20 ETH
eXch.cx	0x5820bdb4a46eaf3a73aad765539e27398a00eb8a3e0cd6990ac574b675701029	2024-03-03 8:04 PM UTC	0xd13AB53fc338B5E7741977d2812ecC3ba4C48311	30 ETH
eXch.cx	0x288fb36164696119dc89fbf491b682d1e6c38c82ce6841ac7e613372f6795b27	2024-03-03 8:18 PM UTC	0x13748eEE5a0b912d197E5eac9CC09CD971D62b3F	30 ETH
eXch.cx	0x6240c06930502a74069091f3f505ead1ac423575cc0e51cd7bd0e9d130e9698b	2024-03-03 8:18 PM UTC	0x02551F6C344176911216a875d97f48BE7D7432d1	30 ETH
Total ETH Deposited into eXch.cx				202.7490618 ETH

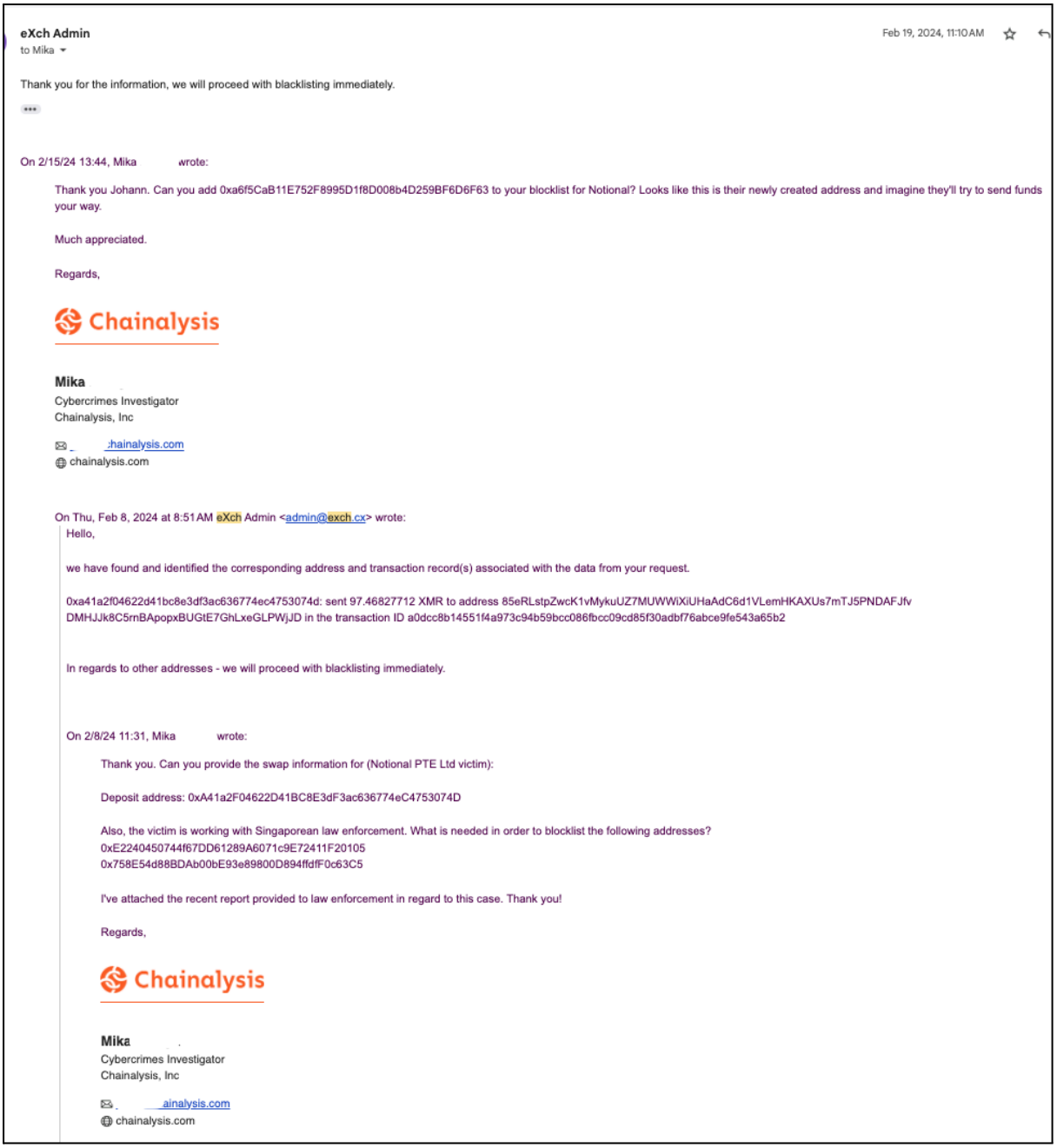
Monero (XMR) swap data was requested by the Chainalysis CIR team and **eXch.cx** has confirmed that the funds were swapped to Monero (XMR). Initial Monero (XMR) swap data provided by **eXch.cx** can be found in the attached Excel spreadsheet titled, "eXch.cx XMR Returns - Notional".

As of February 8, 2024, Chainalysis CIR requested **eXch.cx** blocklist[13] the following two Ethereum addresses:

- 0xE2240450744f67DD61289A6071c9E72411F20105 (**0xE224**)
- 0x758E54d88BDAb00bE93e89800D894ffdfF0c63C5 (**0x758E**)

eXch.cx stated on February 19, 2024, that they had blocklisted these addresses. However, the threat actor sent funds from these addresses to **eXch.cx** on February 25, 27, and March 3, 2024. Due to this recent activity associated with these addresses, it is presumed that **eXch.cx** has removed the blocklists.

[13] "Blocklist" or "Blacklist" is a function to prevent specific cryptocurrency wallet addresses from transacting on a platform.



eXch Admin
to Mika

Feb 19, 2024, 11:10 AM

Thank you for the information, we will proceed with blacklisting immediately.

On 2/15/24 13:44, Mika wrote:

Thank you Johann. Can you add 0xa6f5CaB11E752F8995D1f8D008b4D259BF6D6F63 to your blocklist for Notional? Looks like this is their newly created address and imagine they'll try to send funds your way.

Much appreciated.

Regards,

Chainalysis

Mika
Cybercrimes Investigator
Chainalysis, Inc

.hainalysis.com
chainalysis.com

On Thu, Feb 8, 2024 at 8:51 AM eXch Admin <admin@exch.cx> wrote:

Hello,

we have found and identified the corresponding address and transaction record(s) associated with the data from your request.

0xa41a2f04622d41bc8e3df3ac636774ec4753074d: sent 97.46827712 XMR to address 85eRLstpZwcK1vMykuUZ7MUWWiXiUHaAdC6d1VLemHKAXUs7mTJ5PNDAFJfv DMHJJk8C5rnBApopxBUGtE7GhLxeGLPWjJD in the transaction ID a0dcc8b14551f4a973c94b59bcc086fbcc09cd85f30adbf76abce9fe543a65b2

In regards to other addresses - we will proceed with blacklisting immediately.

On 2/8/24 11:31, Mika wrote:

Thank you. Can you provide the swap information for (Notional PTE Ltd victim):

Deposit address: 0xA41a2F04622D41BC8E3dF3ac636774eC4753074D

Also, the victim is working with Singaporean law enforcement. What is needed in order to blocklist the following addresses?
0xE22404507 44f67DD61289A6071c9E72411F20105
0x758E54d88BDAb00bE93e89800D894ffdfF0c63C5

I've attached the recent report provided to law enforcement in regard to this case. Thank you!

Regards,

Chainalysis

Mika
Cybercrimes Investigator
Chainalysis, Inc

ainalysis.com
chainalysis.com

Figure 14: An illustration of email communication between eXch.cx and Chainalysis regarding a blacklisting request.

VII. October 2023 Incident

This section will provide a description of a separate theft event experienced by Notional on October 31, 2023 (UTC Timezone), in which two of Notional's relayer addresses had received approximately 9,000 TIA tokens each via a Celestia airdrop.[14] Following this airdrop, 9,030 TIA tokens were initially stolen from one of the Notional-controlled addresses: celestia16dc379m0qj64g4pr4nkl7ewak52qy2srcsh04u ("**celestia16dc37**")

Please see the table below.

Table 20:

Transaction Hash	Date	Token Amount	Receiving Address	Blockchain
63BADE4C8FF2BA8C7943234D18EA89369D219FC92ED159A9F9E390E98A696829	2023-10-31 3:10 PM UTC	9,030 TIA	celestia1xvxx5llevesahqelt2fjssgptsc7m69vhactlh	Celestia

Following this unauthorized transfer, funds were then deposited via two transactions to Binance and KuCoin, as seen in the table below.

Table 21:

Service	Transaction Hash	Date	Receiving Address	Amount	Memo	Blockchain
KuCoin	F79AD6960AC49E51CB68A20E7FEDDF0C8FB06307C1808CFA85A4CC847694A9AA	2023-10-31 4:19 PM UTC	celestia1cylgjyd70mheg3j3e2n7t758r07rarwytagltr	10 TIA	1934804507	Celestia
Binance	2F5B00E688F2CC03483ACFD346CF78AA357F959E68C72C318A9602FC257BB767	2023-10-31 6:50 PM UTC	celestia1fd3mclxp4e2fh0wpau3eg55x2fsm7yjxzg29j2	10 TIA	103763025	Celestia

After the deposits to the exchanges, the threat actor proceeded to return the remaining funds to a compromised Notional-controlled address, **celestia16dc37**, as shown in the table below.

Table 22:

Transaction Hash	Date	Token Amount	Receiving Address	Blockchain
8A3B20E05A76ED80E04E3F68AB136A9B032B1BF5DAD817CDBC7F461226E94C36	2023-10-31 7:13 PM UTC	9,009.971417 TIA	celestia16dc379m0qj64g4pr4nkl7ewak52qy2srcsh04u	Celestia

The amount transferred in Table 22, takes into account the stolen funds deposited into Binance and KuCoin, in addition to the gas/transaction fees.

[14] A "token airdrop" is a form of distribution of cryptocurrency tokens to existing token holders and/or to users who perform certain tasks.

Due to concerns of the Notional wallet being compromised, funds were transferred to a new wallet, as seen in the table below. This wallet address is said to be under control by Mr. Long and Du Nguyen (a former infrastructure employee). The Notional team has reported that the address below has been utilized as exit leverage by Mr. Long and Du Nguyen. As of the writing of this report, the Notional team has reported that they have been unable to recover the funds held at the address referenced in the table below.

Table 23:

Transaction Hash	Date	Token Amount	Receiving Address	Blockchain
67830DCC97B444C095A42A5E33524A3989BE48310B6C2C4086F1BCBB539B30FF	2023-10-31 7:28 PM UTC	9,008 TIA	celestia1c35msmpu8pdsgaazntl6x6xmlpl40l3tnw076q	Celestia

VIII. BitCanna Token ("BCNA") Incident

This section will provide a description of a separate theft event experienced by Notional on December 23, 2023 (UTC Timezone), in which 93,293 BCNA (~$1,269 USD)[15] tokens were stolen in two transactions, approximately nine minutes apart. Please see the table below.

Table 24:

Transaction Hash	Date	Token Amount	Receiving Address	Blockchain
0C2C42268808FC18CF81732EFC3F3C35F73DA8846731DD15691E524864246345	2023-12-23 2:51 AM UTC	150 BCNA	osmo1dl7w3myyfmnarh0t5uxmy7qe6szagz3k0ps3t2	Osmosis
FB6030AE0D25F1589EF0DBDD10E1BE29424A8F76F73B484AF2654C76A6F3DA2C	2023-12-23 3:00 AM UTC	93,143 BCNA	osmo1dl7w3myyfmnarh0t5uxmy7qe6szagz3k0ps3t2	Osmosis

After the threat actor transferred the stolen BCNA tokens, the funds were swapped for ATOM tokens, as seen in the table below.

Table 25:Following the token swaps, all stolen tokens were then bridged[16] via IBC (Interblockchain Communication) to Cosmos address: cosmos1dl7w3myyfmnarh0t5uxmy7qe6szagz3k86rpac (**cosmos1dl7w**)

Below is the transaction information for the receipt of the ATOM tokens on the Cosmos blockchain.

Table 26:

[15] This is an approximate value of the BCNA token price on the day of the theft and does not reflect current BCNA pricing.
[16] In this section, the term "bridge" or "bridging" can also be referenced as an "IBC transfer" or "Inter-Blockchain Communication Protocol" which is a protocol or method used to transfer funds via one blockchain or protocol to another.

Transaction Hash	Date	Token Amount	Receiving Address	Blockchain
ECA4E332C669C4953C4BEED5B345884997D93BCFD9AA7A5B31020CDEC458947E	2023-12-23 4:23 AM UTC	152.5 ATOM	cosmos1dl7w3myyfmnarh0t5uxmy7qe6szagz3k86rpac	Cosmos

Approximately 5 minutes after the funds were received at Cosmos address **cosmos1dl7w**, the funds were transferred to Binance hot wallet address[17], as seen in the table below.

Table 27:

Transaction Hash	Date	Token Amount	Receiving Address	Memo	Blockchain
73CFE6CE985A0F6D6FDA219313863AC98862C96691200C29E909219E83E286A1	2023-12-23 4:28 AM UTC	152.5 ATOM	cosmos1j8pp7zvcu9z8vd882m284j29fn2dszh05cqvf9	103571931	Cosmos

Below in **Figure 15** is a Telegram communication between the CIR team and Binance confirming that the wallet address identified belongs to Binance:

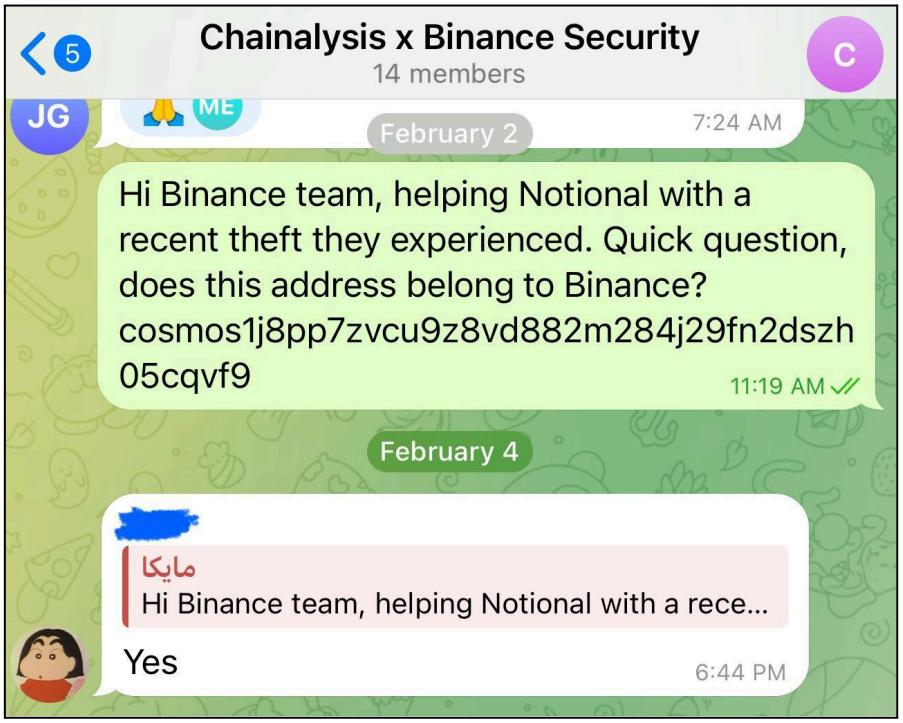


Figure 15: An illustration of a Telegram communication between Binance and Chainalysis.

[17] Chainalysis CIR has confirmed with Binance that this address is their hot wallet address on the Cosmos blockchain: cosmos1j8pp7zvcu9z8vd882m284j29fn2dszh05cqvf9

IX. Next Steps

Chainalysis CIR will continue to monitor and identify additional movement of funds. In addition, it is anticipated that the threat actor will continue to bridge funds via the Axelar.Network to the Ethereum blockchain, and attempt to either swap funds to Monero (XMR) via **eXch.cx**[18] or off-ramp funds.

It is recommended that Notional work with law enforcement to reach out directly to the Chainalysis CIR team to inquire about the Monero (XMR) swaps and transactional information associated with those swaps.

Chainalysis CIR recommends that Notional and/or law enforcement contact Binance and KuCoin directly and request a production order which may provide the following information: KYC (Know-Your-Customer) information, transactional information, and device and IP related data. This information will provide insight into the status of stolen funds and the threat actor.

CIR can provide law enforcement with contact information for those exchanges as well as copies of our Reactor graph upon request.

Appendix A

Below is a list of wallet addresses used by the threat actor in relation to the January 2024 theft discussed in this report:

Address	Smart Contract Address (Y/N)[19]	Service Address (Y/N)	Name of Service	Blockchain
celestia1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf7re4tj	N	N	N/A	Celestia
osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d	N	N	N/A	Osmosis
sei1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfz9enh7	N	N	N/A	Sei
stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w	N	N	N/A	Stargaze
cosmos1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf0fg93l	N	N	N/A	Cosmos

[18] As their previously used Ethereum addresses have been blocklisted by the entity, it is possible that the threat actor could create new wallet addresses in an attempt to bypass the blocklist function.
[19] The Ethereum wallet addresses which are smart contract addresses have a “self-destruct” function forwarding funds to a specified wallet address.

osmo1q0w3uu5lawc343azvsls9zlr4r4zectvr85u2v	N	N	N/A	Osmosis
osmo1zhmjn600jd3ptl00xd6y38gn83m84ea2fsyxes	N	N	N/A	Osmosis
akash1y9ywn8mlsmn6jxujwh08xsevfe60t30grf7up3	N	N	N/A	Akash
0x6C270f5F08e9D5B9665fc8218B4865cdA97826ae	N	N	N/A	Ethereum
0x37C5EdfE594d4a090efDD6a1A5704676c931bB58	N	N	N/A	Ethereum
0x4480629EB69b6316E106d70d7A273635d013Fdcd	Y[20]	N	N/A	Ethereum
0x02c1cc50aF8231321697FFE65c777E7F3ab48768	N	N	N/A	Ethereum
0x6dC75C1b9F36C1e49c15c098e05DA6585715B037	Y[21]	N	N/A	Ethereum
0xdEFC7872051Ea8CB160157C23af51E18c013b1Fb	Y[22]	N	N/A	Ethereum
0xE2240450744f67DD61289A6071c9E72411F20105	N	N	N/A	Ethereum
0x758E54d88BDAb00bE93e89800D894ffdfF0c63C5	N	N	N/A	Ethereum
0xA4c66fe2727fE9DFe947af2f530cDC6Fb7bB32D8	N	N	N/A	Ethereum
0x714E1D6d7194fa6EaA13f0D7B0e8E721AC570c56	N	N	N/A	Ethereum
0xFaC0fa25F54Cf442558E2A7168d5D4b5bF9983C9	N	N	N/A	Ethereum
0xbC882735bedd79F247D407260C3db8E6f2184159	N	N	N/A	Ethereum
0x448De027D77EB8c5D7fff3eE1DD2f33C79	N	N	N/A	Ethereum

[20] Funds received by this smart contract address were forwarded to the following wallet address: 0x02c1cc50aF8231321697FFE65c777E7F3ab48768

[21] Funds received by this smart contract address were forwarded to the following wallet address: 0xE2240450744f67DD61289A6071c9E72411F20105

[22] Funds received by this smart contract address were forwarded to the following wallet address: 0x758E54d88BDAb00bE93e89800D894ffdfF0c63C5

Dc5877				
0xcC70887dCd2715051866532931c5d50228DF3cd7	N	N	N/A	Ethereum
0x9db5Ec9C9cd5069558AEd75d6c62074575E1c082	N	Y	eXch.cx	Ethereum
0xdae2c16DD347baaA32C8f8cb8bfCA091f3DAe254	N	Y	eXch.cx	Ethereum
0x91450CAa3e6CcA9628Ba9D9D791FD6D221B4A37B	N	Y	eXch.cx	Ethereum
0x98fc891b958F17f4c3b2aA48A027dF0D1844C3a9	N	Y	eXch.cx	Ethereum
0x831EE72E7E5645d5FBaCBFE50a13Bff5Fa6e0859	N	Y	eXch.cx	Ethereum
0x7DE7DB1CA298FD177CBF0Ceb919f1DBfE7bf3F59	N	Y	eXch.cx	Ethereum
0x9f16B1904B2E1fB545281d10c2c294a5d98fd7a5	N	Y	eXch.cx	Ethereum
0xA41a2F04622D41BC8E3dF3ac636774eC4753074D	N	Y	eXch.cx	Ethereum
0xa6f5CaB11E752F8995D1f8D008b4D259BF6D6F63	N	Y	eXch.cx	Ethereum
0xf047075aC138A3146a462Ebb6253ddB25b803b96	N	Y	eXch.cx	Ethereum
0xAFC8584eC01eb359b360A808B02AB40836f25D3b	N	Y	eXch.cx	Ethereum
axelar1zecwy0950u636e9sftmzj99alu2pxperw8wxs28e95rsrcewczzsjare80	N	N	N/A	Axelar
axelar1tpwstseq7dfpng798jkcqdemjltxjyjk06lrcmedmyatqwcclp7qav7lsp	N	N	N/A	Axelar
axelar1welqcqq7hkkzehpu4tshpf4ugh4jl7t22u23830vmunf8fwxfpnskn3gv4	N	N	N/A	Axelar
axelar1ejg639vvauhg0j7lrr0drt8qzfsac8ylqfxz007vuwme4qvfr86qy4eupx	N	N	N/A	Axelar
axelar126drjlnqucnz77t3ngwhnhsck0kmq3s4dfm34t2eymh8znnv6haqqf903f	N	N	N/A	Axelar
axelar1m4p90hjn48mxqcca04knkma22ly5yfzs43q0nspgg3lp2hfuglfsyky8ty	N	N	N/A	Axelar

Appendix B

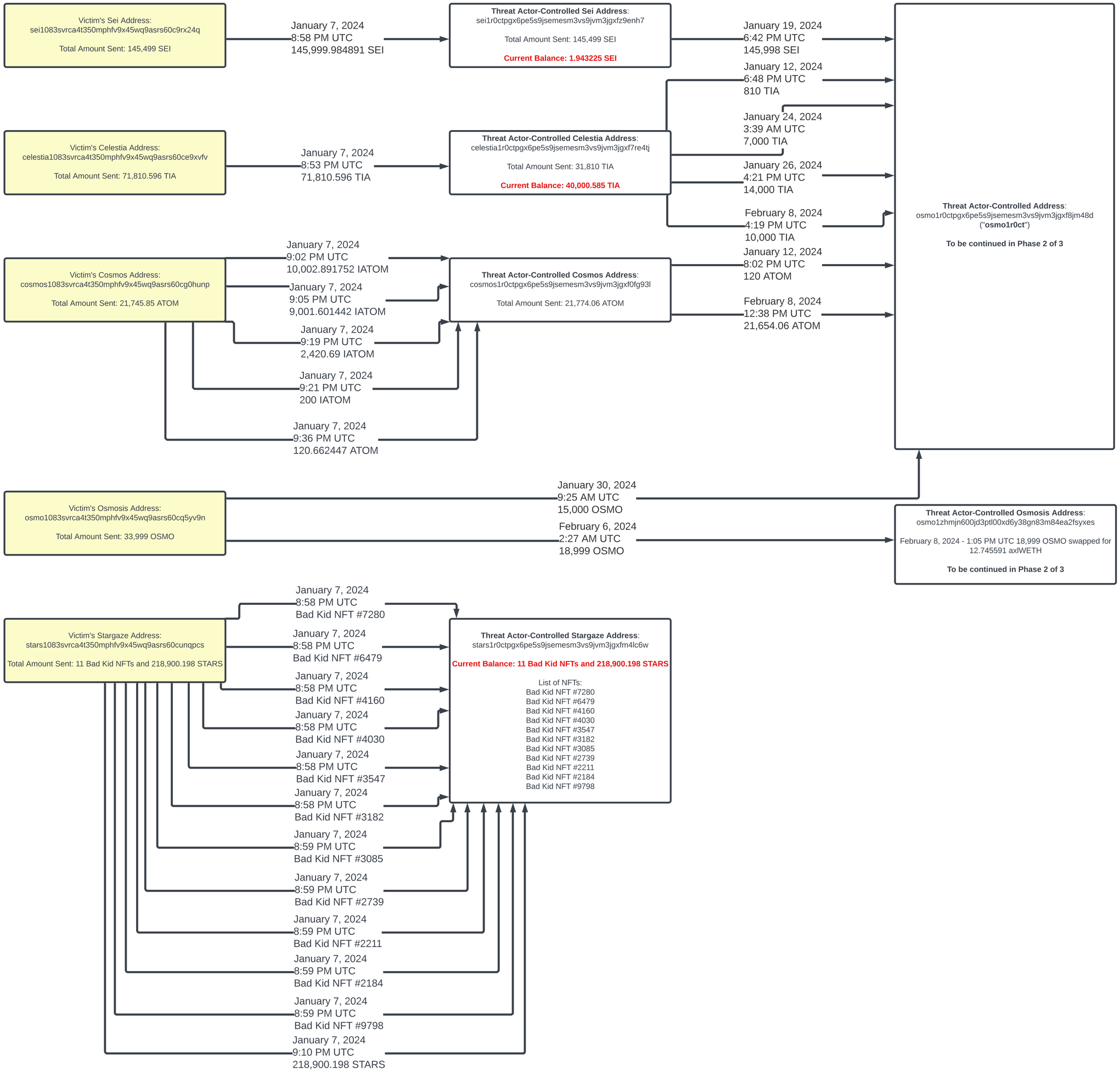
Below is a screenshot of the 11 Bad Kid NFTs with their NFT names in relation to the Bad Kid NFT collection which consists of 9,996 NFTs:

Appendix C

Please see the PDF attachment tiled, “Appendix C”.

I, Mika Dahiya, declare that I prepared the foregoing investigative report and the tables and figures contained therein and attached thereto.

Mika Dahiya


Victim's Sei Address:
sei1083svrca4t350mphfv9x45wq9asrs60c9rx24q
Total Amount Sent: 145,499 SEI
January 7, 2024
8:58 PM UTC
145,999.984891 SEI
Threat Actor-Controlled Sei Address:
sei1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfz9enh7
Total Amount Sent: 145,499 SEI
Current Balance: 1.943225 SEI
January 19, 2024
6:42 PM UTC
145,998 SEI
Victim's Celestia Address:
celestia1083svrca4t350mphfv9x45wq9asrs60ce9xvfv
Total Amount Sent: 71,810.596 TIA
January 7, 2024
8:53 PM UTC
71,810.596 TIA
Threat Actor-Controlled Celestia Address:
celestia1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf7re4tj
Total Amount Sent: 31,810 TIA
Current Balance: 40,000.585 TIA
January 12, 2024
6:48 PM UTC
810 TIA
January 24, 2024
3:39 AM UTC
7,000 TIA
January 26, 2024
4:21 PM UTC
14,000 TIA
February 8, 2024
4:19 PM UTC
10,000 TIA
Threat Actor-Controlled Address:
osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d
("osmo1r0ct")
To be continued in Phase 2 of 3
Victim's Cosmos Address:
cosmos1083svrca4t350mphfv9x45wq9asrs60cg0hunp
Total Amount Sent: 21,745.85 ATOM
January 7, 2024
9:02 PM UTC
10,002.891752 IATOM
January 7, 2024
9:05 PM UTC
9,001.601442 IATOM
January 7, 2024
9:19 PM UTC
2,420.69 IATOM
January 7, 2024
9:21 PM UTC
200 IATOM
January 7, 2024
9:36 PM UTC
120.662447 ATOM
Threat Actor-Controlled Cosmos Address:
cosmos1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf0fg93l
Total Amount Sent: 21,774.06 ATOM
January 12, 2024
8:02 PM UTC
120 ATOM
February 8, 2024
12:38 PM UTC
21,654.06 ATOM
Victim's Osmosis Address:
osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n
Total Amount Sent: 33,999 OSMO
January 30, 2024
9:25 AM UTC
15,000 OSMO
February 6, 2024
2:27 AM UTC
18,999 OSMO
Threat Actor-Controlled Osmosis Address:
osmo1zhmjn600jd3ptl00xd6y38gn83m84ea2fsyxes
February 8, 2024 - 1:05 PM UTC 18,999 OSMO swapped for 12.745591 axlWETH
To be continued in Phase 2 of 3
Victim's Stargaze Address:
stars1083svrca4t350mphfv9x45wq9asrs60cunqpcs
Total Amount Sent: 11 Bad Kid NFTs and 218,900.198 STARS
January 7, 2024
8:58 PM UTC
Bad Kid NFT #7280
January 7, 2024
8:58 PM UTC
Bad Kid NFT #6479
January 7, 2024
8:58 PM UTC
Bad Kid NFT #4160
January 7, 2024
8:58 PM UTC
Bad Kid NFT #4030
January 7, 2024
8:58 PM UTC
Bad Kid NFT #3547
January 7, 2024
8:58 PM UTC
Bad Kid NFT #3182
January 7, 2024
8:59 PM UTC
Bad Kid NFT #3085
January 7, 2024
8:59 PM UTC
Bad Kid NFT #2739
January 7, 2024
8:59 PM UTC
Bad Kid NFT #2211
January 7, 2024
8:59 PM UTC
Bad Kid NFT #2184
January 7, 2024
8:59 PM UTC
Bad Kid NFT #9798
January 7, 2024
9:10 PM UTC
218,900.198 STARS
Threat Actor-Controlled Stargaze Address:
stars1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxfm4lc6w
Current Balance: 11 Bad Kid NFTs and 218,900.198 STARS
List of NFTs:
Bad Kid NFT #7280
Bad Kid NFT #6479
Bad Kid NFT #4160
Bad Kid NFT #4030
Bad Kid NFT #3547
Bad Kid NFT #3182
Bad Kid NFT #3085
Bad Kid NFT #2739
Bad Kid NFT #2211
Bad Kid NFT #2184
Bad Kid NFT #9798

Receiving Address:
osmo1q0w3uu5lawc343azvsls9zlr4r4zectvr85u2v

Current Balance: 2.317886 OSMO & 7.772664 USDC

Note: From February 3, 2024 at 8:49 AM UTC through February 6, 2024 at 8:40 PM UTC in 106 transactions, 16.45 OSMO was transferred back to compromised Notional address: osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n

5 OSMO were swapped for 7.772664 USDC. In addition, 6.23 OSMO was lost in transaction fees.

February 3, 2024
8:49 AM UTC through February 6, 2024 8:40 PM UTC
16.45 OSMO transferred via 106 transactions

Compromised Notional Receiving Address:
osmo1083svrca4t350mphfv9x45wq9asrs60cq5yv9n

Receiving Address:
osmo1y9ywn8mlsmn6jxujwh08xsevfe60t30gxfqtwe

Current Balance: 4 OSMO

Note: From February 1, 2024 at 10:07 AM UTC through February 3, 2024 at 9:45 AM UTC in 9 transactions, **5.01 OSMO** were transferred back to **osmo1r0ct**

February 1, 2024
6:23 AM UTC
10 OSMO

February 3, 2024
8:22 AM UTC
10 OSMO

Akash Swap:
January 31, 2024 at 8:38 PM UTC: 20 OSMO (Token In) / 11.248193 AKT (Token Out)

January 31, 2024 at 8:44 PM UTC: 11.248193 AKT transferred to akash1y9ywn8mlsmn6jxujwh08xsevfe60t30grf7up3

January 31, 2024
8:44 PM UTC
11.248193 AKT

Akash Receiving Address:
akash1y9ywn8mlsmn6jxujwh08xsevfe60t30grf7up3

Current Balance: 4.248193 AKT

January 31, 2024
10:54 PM UTC
1 AKT

January 31, 2024
10:54 PM UTC
5 AKT

Akash Receiving Address:
akash1083svrca4t350mphfv9x45wq9asrs60c956m2m

This address is affiliated with Notional

February 3, 2024
9:45 AM UTC
20 OSMO

osmo1r0ct TIA Swaps:

January 12, 2024 - 7:05 PM UTC: 800 TIA (Token In) / 5.096064504233690000 axlWETH(Token Out)

January 24, 2024 - 5:41 AM UTC: 4,000 TIA (Token In) /
44,354.298668 OSMO (Token Out)

January 24, 2024 - 5:43 AM UTC: 44,354 OSMO (Token In) / 28.817387059261403000 axlWETH (Token Out)

January 24, 2024 - 7:20 AM UTC: 3,000 TIA (Token In) / 22.07925972270513000 axlWETH (Token Out)

January 26, 2024 - 4:23 PM UTC: 2,000 TIA (Token In) / 14.553937374503649000 axlWETH (Token Out)

January 26, 2024 - 6:50 PM UTC: 2,000 TIA (Token In) / 14.569953524808307000 axlWETH (Token Out)

January 27, 2024 - 12:33 PM UTC: 2,000 TIA (Token In) / 14.746630609435526000 axlWETH (Token Out)

January 27, 2024 - 5:31 AM UTC: 2,500 TIA (Token In) / 18.737740554722734000 axlWETH (Token Out)

January 27, 2024 - 5:33 AM UTC: 300 TIA (Token In) / 2.2444562241044483000 axlWETH (Token Out)

February 3, 2024 - 7:31 AM UTC: 2,000 TIA (Token In) / 15.6594948153340050000 axlWETH (Token Out)

February 5, 2024 - 9:24 AM UTC: 1,210 TIA (Token In) / 9.455055843573481000 axlWETH (Token Out)

February 8, 2024 - 11:58 AM UTC: 2,000 TIA (Token In) / 16.006306486226208000 axlWETH (Token Out)

February 8, 2024 - 4:22 PM UTC: 2,000 TIA (Token In) / 16.475958236573863000 axlWETH (Token Out)

February 8, 2024 - 4:34 PM UTC: 2,000 TIA (Token In) / 16.471590145778930000 axlWETH (Token Out)

February 8, 2024 - 8:14 PM UTC: 1,000 TIA (Token In) / 8.2632726930938100000 axlWETH (Token Out)

February 8, 2024 - 8:16 PM UTC: 1,000 TIA (Token In) / 8.277310818919114000 axlWETH (Token Out)

osmo1r0ct SEI Swaps:

January 19, 2024 - 6:54 PM UTC: 20,000 SEI (Token In) /
8,553.451590 OSMO (Token Out)

January 19, 2024 - 7:01 PM UTC: 25,000 SEI (Token In) / 10,635.113665 OSMO (Token Out)

January 19, 2024 - 7:05 PM UTC: 19,188 OSMO (Token In) / 12.3751836650552268000 axlWETH (Token Out)

January 22, 2024 - 6:44 PM UTC: 20,000 SEI (Token In) / 8,034.073169 OSMO (Token Out)

January 22, 2024 - 6:52 PM UTC: 20,000 SEI (Token In) / 8,018.854816 OSMO (Token Out)

January 22, 2024 - 6:53 PM UTC: 20,000 SEI (Token In) / 8,029.310090 OSMO (Token Out)

January 22, 2024 - 6:57 PM UTC: 24,082 OSMO (Token In) / 14.917406515585570000 axlWETH (Token Out)

January 23, 2024 - 7:05 AM UTC: 20,000 SEI (Token In) / 8,450.882782 OSMO (Token Out)

January 23, 2024 - 7:05 AM UTC: 20,498 SEI (Token In) / 5.288300096937015000 axlWETH (Token Out)

January 23, 2024 - 7:06 AM UTC: 8,451 OSMO (Token In) / 5.189857726861664000 axlWETH (Token Out)

Threat Actor-Controlled Address:
osmo1r0ctpgx6pe5s9jsemesm3vs9jvm3jgxf8jm48d
("**osmo1r0ct**")

Funds Received:
145,999 SEI
31,810 TIA
21,774.06 ATOM
15,000 OSMO

osmo1r0ct ATOM Swaps:

February 8, 2024 - 12:40 PM UTC: 10,000 ATOM (Token In) / 57,393.152160 OSMO (Token Out)

February 8, 2024 - 12:42 PM UTC: 11,774.05 ATOM (Token In) / 67,481.319405 OSMO (Token Out)

February 8, 2024 - 12:54 PM UTC: 30,000 OSMO (Token In) / 20.298203463086423000 axlWETH (Token Out)

February 8, 2024 - 12:55 PM UTC: 30,000 OSMO (Token In) / 20.26543278031877000 axlWETH (Token Out)

February 8, 2024 - 12:57 PM UTC: 30,000 OSMO (Token In) / 20.1717299845879700000 axlWETH (Token Out)

February 8, 2024 - 1:01 PM UTC: 34,868.18 OSMO (Token In) / 23.245157341624253000 axlWETH (Token Out)

Threat Actor-Controlled Address:
osmo1r0ct

Current Balance: 9.834796 OSMO & 4,000 TIA

January 12, 2024
7:06 PM UTC
5.096064504233690000 axlWETH

Axelar Relayer Receiving Address:
axelar1dv4u5k73pzqrxlzujxg3qp8kvc3pje7jtdvu72npnt5zhq05ejcsn5qme5
("**axelar1dv4**")

Total Amount Bridged to Ethereum: 5.096064504233690000 axlWETH

To be continued in Phase 3 of 3

January 19, 2024
7:06 PM UTC
12.375183665055268000 axlWETH

Axelar Relayer Receiving Address:
axelar1dv4u5k73pzqrxlzujxg3qp8kvc3pje7jtdvu72npnt5zhq05ejcsn5qme5
("**axelar1dv4**")

Total Amount Bridged to Ethereum: 12.375183665055268000 axlWETH

To be continued in Phase 3 of 3

January 23, 2024
7:08 AM UTC
10.478157823798679000 axlWETH

Axelar Relayer Receiving Address:
axelar1dv4u5k73pzqrxlzujxg3qp8kvc3pje7jtdvu72npnt5zhq05ejcsn5qme5
("**axelar1dv4**")

Total Amount Bridged to Ethereum: 10.478157823798679000 axlWETH

To be continued in Phase 3 of 3

January 12, 2024
7:06 PM UTC
14.917406515585570000 axlWETH

Axelar Relayer Receiving Address:
axelar126drjlnqucnz77t3ngwhnhsck0kmq3s4dfm34t2eymh8znnv6haqqf903f

Total Amount Bridged to Ethereum: 14.917406515585570000 axlWETH

To be continued in Phase 3 of 3

January 24, 2024
8:14 AM UTC
50.896646781966540000 axlWETH

Axelar Relayer Receiving Address:
axelar1m4p90hjn48mxqcca04knkma22ly5yfzs43q0nspgg3lp2hfuglfsyky8ty

Total Amount Bridged to Ethereum: 50.896646781966540000 axlWETH

To be continued in Phase 3 of 3

January 27, 2024
7:42 AM UTC
50.106087678139176000 axlWETH

Axelar Relayer Receiving Address:
axelar1ejg639vvauhg0j7lrr0dnt8qzfsac8yfqfx2007vuwme4qvfr86qy4eupx

Total Amount Bridged to Ethereum: 50.106087678139176000 axlWETH

To be continued in Phase 3 of 3

February 8, 2024
8:19 PM UTC
49.488131894365715000 axlWETH

Axelar Relayer Receiving Address:
axelar1welqcqq7hkkzehpu4tshpf4ugh4jl7t22u23830vmunf8fwxfpnskn3gv4

Total Amount Bridged to Ethereum: 49.488131894365715000 axlWETH

To be continued in Phase 3 of 3

February 8, 2024
1:03 PM UTC
150.009743203673420000 axlWETH

Axelar Relayer Receiving Address:
axelar1tpwstseq7dfpng798jkcqdemjltxjyjk06lrcmedmyatqwcclp7qav7lsp

Total Amount Bridged to Ethereum: 150.009743203673420000 axlWETH

To be continued in Phase 3 of 3

Threat Actor-Controlled Cosmos Address:
osmo1zhmjn600jd3ptl00xd6y38gn83m84ea2fsyxes

February 8, 2024 - 1:05 PM UTC 18,999 OSMO
swapped for 12.745591 axlWETH

osmo1zhm OSMO Swap:
February 8, 2024 - 1:05 PM UTC: 18,999.743125 OSMO (Token In) / 12.745591088895312000 axlWETH (Token Out)

February 8, 2024
1:06 PM UTC
12.745591 axlWETH

Axelar Relayer Receiving Address:
axelar1zecwy0950u636e9sftmzj99alu2pxperw8wxs28e95rsrcewczzsjare80

Total Amount Bridged to Ethereum: 12.745591 axlWETH

To be continued in Phase 3 of 3

Axelar Relayer Receiving Address: axelar1dv4u5k73pzqrxlzujxg3qp8kvc3pje7jtdvu72npnt5zhq05ejcsn5qme5 ("axelar1dv4") Total Amount Bridged to Ethereum: 5.096064504233690000 axlWETH
Axelar Relayer Receiving Address: axelar1dv4u5k73pzqrxlzujxg3qp8kvc3pje7jtdvu72npnt5zhq05ejcsn5qme5 ("axelar1dv4") Total Amount Bridged to Ethereum: 12.375183665055268000 axlWETH
Axelar Relayer Receiving Address: axelar1dv4u5k73pzqrxlzujxg3qp8kvc3pje7jtdvu72npnt5zhq05ejcsn5qme5 ("axelar1dv4") Total Amount Bridged to Ethereum: 10.478157823798679000 axlWETH
Axelar Relayer Receiving Address: axelar126drjlnqucnz77t3ngwhnhsck0kmq3s4dfm34t2eymh8znnv6haqqf903f Total Amount Bridged to Ethereum: 14.917406515585570000 axlWETH
Axelar Relayer Receiving Address: axelar1m4p90hjn48mxqcca04knkma22ly5yfzs43q0nspgg3lp2hfuglfsyky8ty Total Amount Bridged to Ethereum: 50.896646781966540000 axlWETH
Axelar Relayer Receiving Address: axelar1ejg639vvauhg0j7lrr0drt8qzfsac8ylqfxz007vuwme4qvfr86qy4eupx Total Amount Bridged to Ethereum: 50.106087678139176000 axlWETH
Axelar Relayer Receiving Address: axelar1welqcqq7hkkzehpu4tshpf4ugh4jl7t22u23830vmunf8fwxfpnskn3gv4 Total Amount Bridged to Ethereum: 49.488131894365715000 axlWETH
Axelar Relayer Receiving Address: axelar1tpwstseq7dfpng798jkcqdemjltxjyjk06lrcmedmyatqwcclp7qav7lsp Total Amount Bridged to Ethereum: 150.009743203673420000 axlWETH
Axelar Relayer Receiving Address: axelar1zecwy0950u636e9sftmzj99alu2pxperw8wxs28e95rsrcewczzsjare80 Total Amount Bridged to Ethereum: 12.745591 axlWETH
January 12, 2024 7:19 PM UTC 5.07034644236998 WETH
January 19, 2024 7:19 PM UTC 12.3392972822281 WETH
January 23, 2024 7:24 AM UTC 10.4692306024442 WETH
January 22, 2024 7:19 PM UTC 14.87934451 WETH
January 24, 2024 9:18 AM UTC 50.8585847819665 WETH
January 27, 2024 5:58 AM UTC 50.0810256781391 WETH
February 8, 2024 8:38 PM UTC 49.4630698943657 WETH
February 8, 2024 1:19 PM UTC 162.70521029 WETH
Axelar Relayer Address on Ethereum: 0xD36aac0c9676e984D72823Fb662ce94D3Ab5E551 Destination addresses identified via a time and spend analysis.
Ethereum Smart Contract Receiving Address: 0x4480629EB69b6316E106d70d7A273635d013Fdcd Smart contract "self destructs" and funds are forwarded to Ethereum address: 0x02c1cc50aF8231321697FFE65c777E7F3ab48768
Ethereum Smart Contract Receiving Address: 0x6dC75C1b9F36C1e49c15c098e05DA6585715B037 Smart contract "self destructs" and funds are forwarded to Ethereum address: 0xE2240450744f67DD61289A6071c9E72411F20105
Ethereum Smart Contract Receiving Address: 0xdEFC7872051Ea8CB160157C23af51E18c013b1Fb Smart contract "self destructs" and funds are forwarded to Ethereum address: 0x758E54d88BDAb00bE93e89800D894ffdfF0c63C5
January 12, 2024 7:19 PM UTC 5.070346442369985738 ETH
January 19, 2024 7:19 PM UTC 12.339297282228124446 ETH
January 23, 2024 7:24 AM UTC 10.4692306024442 ETH
January 22, 2024 7:19 PM UTC 14.87934451 ETH
January 24, 2024 9:18 AM UTC 50.858584781966535769 ETH
January 27, 2024 5:59 AM UTC 50.081025678139172186 ETH
February 8, 2024 8:39 PM UTC 49.463069894365715389 ETH
February 8, 2024 1:19 PM UTC 162.70521029 ETH
Ethereum Receiving Address: 0x6C270f5F08e9D5B9665fc8218B4865cdA97826ae Amount Received: 5.070346442369985738 ETH Amount Sent: 5.069647379184129738 ETH
Ethereum Receiving Address: 0x37C5EdfE594d4a090efDD6a1A5704676c931bB58 Amount Received: 12.339297282228124446 ETH Amount Sent: 12.338321285941936446 ETH
Ethereum Receiving Address: 0x02c1cc50aF8231321697FFE65c777E7F3ab48768 Amount Received: 25.348575118029826798 ETH Amount Sent: 25.347967971765535798 ETH
Ethereum Receiving Address: 0xE2240450744f67DD61289A6071c9E72411F20105 Amount Received: 150.402680354471423344 ETH Amount Sent: 125 ETH Current Balance: 25.3961 ETH
Ethereum Receiving Address: 0x758E54d88BDAb00bE93e89800D894ffdfF0c63C5 Amount Received: 162.70521029 ETH Amount Sent: 35 ETH Current Balance: 127.703372532179330277 ETH
January 12, 2024 7:27 PM UTC 5.069647379184129738 ETH
January 19, 2024 7:22 PM UTC 12.338321285941936446 ETH
January 23, 2024 2:49 PM UTC 25.347967971765535798 ETH
Ethereum Receiving Address: 0xA4c66fe2727fE9DFe947af2f530cDC6Fb7bB32D8 Amount Received: 5.069647379184129738 ETH Amount Sent: 5.069209962184410738 ETH
Ethereum Receiving Address: 0x714E1D6d7194fa6EaA13f0D7B0e8E721AC570c56 Amount Received: 12.338321285941936446 ETH Amount Sent: 12.337642890419446446 ETH
Ethereum Receiving Address: 0xFaC0fa25F54Cf442558E2A7168d5D4b5bF9983C9 Amount Received: 25.347967971765535798 ETH Amount Sent: 25.347519454584430798 ETH
January 12, 2024 7:27 PM UTC 5.069647379184129738 ETH
January 19, 2024 7:34 PM UTC 12.337642890419446446 ETH
January 23, 2024 4:06 PM UTC 25.347519454584430798 ETH
February 8, 2024 12:05 PM UTC 5 ETH
February 15, 2024 6:35 PM UTC 40 ETH
February 27, 2024 1:49 PM UTC 20 ETH
March 3, 2024 8:04 PM UTC 30 ETH
March 3, 2024 8:18 PM UTC 30 ETH
February 25, 2024 9:22 PM UTC 5 ETH
March 3, 2024 7:52 PM UTC 30 ETH
eXch.cx Deposit Address: 0xA41a2F04622D41BC8E3dF3ac636774eC4753074D Amount Received: 5 ETH
eXch.cx Deposit Address: 0xa6f5CaB11E752F8995D1f8D008b4D259BF6D6F63 Amount Received: 40 ETH
eXch.cx Deposit Address: 0xAFC8584eC01eb359b360A808B02AB40836f25D3b Amount Received: 20 ETH
eXch.cx Deposit Address: 0xd13AB53fc338B5E7741977d2812ecC3ba4C48311 Amount Received: 30 ETH
eXch.cx Deposit Address: 0x13748eEE5a0b912d197E5eac9CC09CD971D62b3F Amount Received: 30 ETH
eXch.cx Deposit Address: 0xf047075aC138A3146a462Ebb6253ddB25b803b96 Amount Received: 5 ETH
eXch.cx Deposit Address: 0x02551F6C344176911216a875d97f48BE7D7432d1 Amount Received: 30 ETH
Ethereum Receiving Address: 0xbC882735bedd79F247D407260C3db8E6f2184159 Amount Received: 54.777206079458228441 ETH Amount Sent: 54.772349328919322441 ETH Note: There is an additional deposit / withdrawal not associated with Notional funds and has not been included in this visual.
January 23, 2024 4:34 PM UTC 0.281527080619301798 ETH
January 12, 2024 11:02 PM UTC 4.966822373708395738 ETH
Ethereum Receiving Address: 0x448De027D77EB8c5D7fff3eE1DD2f33C79Dc5877 Amount Received: 0.281527080619301798 ETH Amount Sent: 0.280901849838917798 ETH
Ethereum Receiving Address: 0xcC70887dCd2715051866532931c5d50228DF3cd7 Amount Received: 4.966822373708395738 ETH Amount Sent: 4.966246323436444738 ETH
January 12, 2024 6:39 PM UTC 0.280901849838917798 ETH
January 12, 2024 11:11 PM UTC 4.966246323436444738 ETH
January 12, 2024 10:43 PM UTC 0.101 ETH
January 19, 2024 7:43 PM UTC 12.1616 ETH
January 19, 2024 7:46 PM UTC 0.174713590407098446 ETH
January 23, 2024 4:21 PM UTC 23.0936 ETH
January 23, 2024 4:26 PM UTC 1.971 ETH
eXch.cx Deposit Address: 0x9f16B1904B2E1fB545281d10c2c294a5d98fd7a5 Amount Received: 0.280901849838917798 ETH
eXch.cx Deposit Address: 0xdae2c16DD347baaA32C8f8cb8bfCA091f3DAe254 Amount Received: 4.966246323436444738 ETH
eXch.cx Deposit Address: 0x9db5Ec9C9cd5069558AEd75d6c62074575E1c082 Amount Received: 0.101 ETH
eXch.cx Deposit Address: 0x91450CAa3e6CcA9628Ba9D9D791FD6D221B4A37B Amount Received: 12.1616 ETH
eXch.cx Deposit Address: 0x98fc891b958F17f4c3b2aA48A027dF0D1844C3a9 Amount Received: 0.174713590407098446 ETH
eXch.cx Deposit Address: 0x831EE72E7E5645d5FBaCBFE50a13Bff5Fa6e0859 Amount Received: 23.0936 ETH
eXch.cx Deposit Address: 0x7DE7DB1CA298FD177CBF0Ceb919f1DBfE7bf3F59 Amount Received: 1.971 ETH

eXch Deposit Address:	Withdrawal Amount (XMR	XMR Address	XMR Hash
0x9db5ec9c9cd5069558aed75d6c62074575e1c0	1.40338833	84TtnxquMTQ6aT5MUgx3WzLyYkb	abaa6e8e28f9f121c29099d1cc04b28ce5dbed084ac93cd17840df5ebce72d99
0x91450caa3e6cca9628ba9d9d791fd6d221b4a37	168.9846284	84VPNvtuKK4TwykgJHqVfjNg5zTTn	9e64e966509e5e0cc5a8b1321b264c778da6688eac2ba097b4c6978be800c657
0x98fc891b958f17f4c3b2aa48a027df0d1844c3a9	2.42763379	89ApnTTzRMWUNCvVo16vXDTs1v	5e5cd2934db5ad0e7f474e21fb576be3a87ab98ba6fade8483e9d3ba8c3984fe
0x16c3ae5f1db416fb9bb13ca465099d24e71c287	163.3835805	86m7V24USkW9gUXb7qPJNGcVX9	8a83a56e702fca1fb5e6e3461d751b50dd47d6498673231db5eb81ee73ecc0ac
0xaa3b106d7970df16ef5b95de88d4be9a6201007	3.662514	8B9itqYoHKbYDHYShXndK1TCxZ63	0e79309069ddf0869d6b710fbf3582975608b0d7c376462afb77bd3cce514c36
0x831ee72e7e5645d5fbacbfe50a13bff5fa6e0859	320.884046	85RTgpVTT2VT9Vd9jHEfweLbwG4l	98c8bcec01b7398da9d515b5477d75e6ea1559a78057f1d008c223e2d1abc4ca
0x7de7db1ca298fd177cbf0ceb919f1dbfe7bf3f59	27.3554845	836g2kbfxnjCrZHrLiXAdQ2xWVYyTe	d4ac3b66cf382032a3c16f357101bd8b352770767316258ef14891a8b0c58ce4
0x9f16B1904B2E1fB545281d10c2c294a5d98fd7a	3.94581865	85FxdQLgqhPh12andmDLanh7M6xl	bc63f4c010e6869f5a11f606186552fda6463df73f7c4575f14980f2e38ebb24
0xdae2c16dd347baaa32c8f8cb8bfca091f3dae254	90.61975468	86Y2fAwzHotHJ8fFsgj9UYBG5v5Ha	9089295dbb940e6949a76ed41d09c2c445ad16713f1525d5ed6132b985dae09d
0xa41a2f04622d41bc8e3df3ac636774ec4753074	97.46827712	85eRLstpZwcK1vMykuUZ7MUWWi	a0dcc8b14551f4a973c94b59bcc086fbcc09cd85f30adbf76abce9fe543a65b2
Total	880.1351259		