

Tuesday 21 May 2019 – Afternoon

LEVEL 3 CAMBRIDGE TECHNICAL IN IT

05839/05840/05841/05842/05877 Unit 3: Cyber security

INSERT



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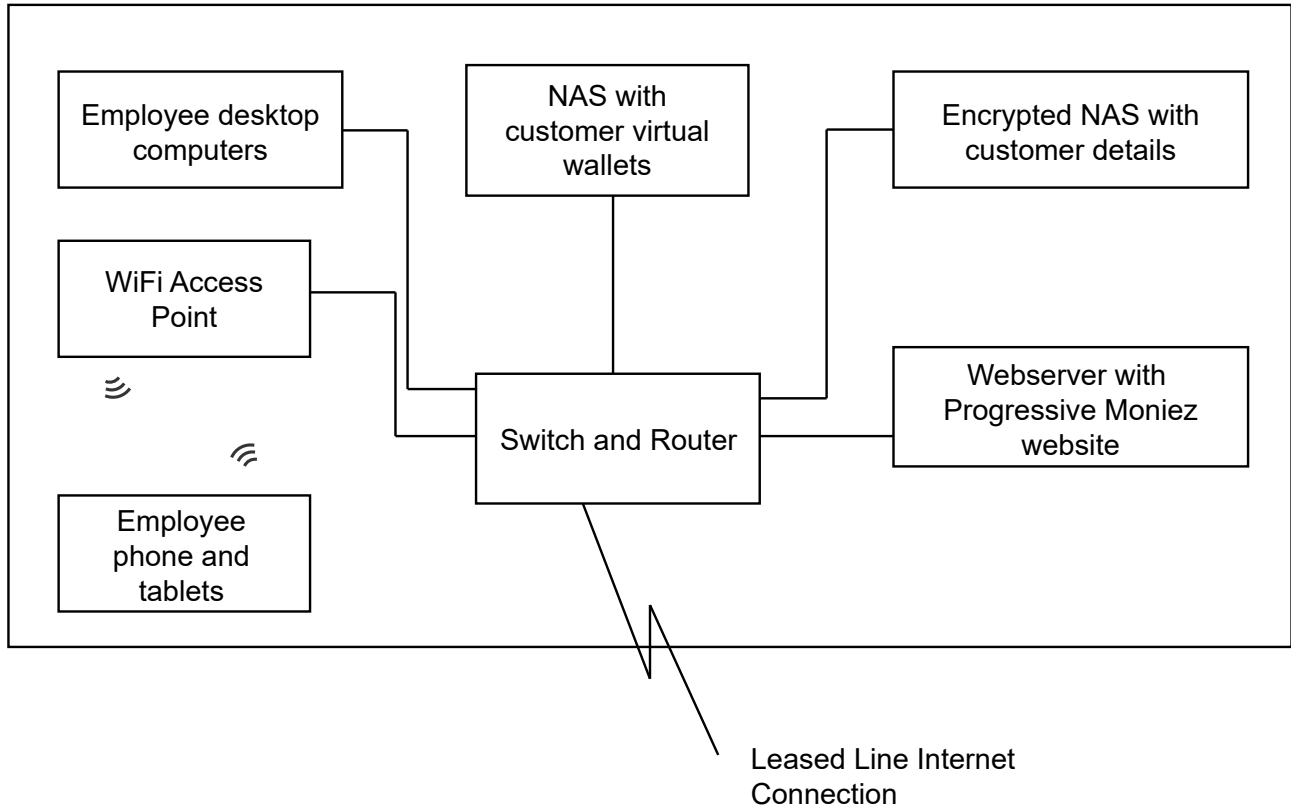
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Progressive Moniez

Introduction

Progressive Moniez is a third-party broker whose business is to buy and sell cryptocurrencies for its customers. It also stores the currency on behalf of its customers.

Network Set Up



Progressive Moniez – Wallet and Blockchain

Each customer has a virtual wallet. This wallet is a collection of keypairs. A keypair is a 'public key' and a 'private key'. Every cryptocurrency address consists of a keypair. The private key is stored by the customer.

The blockchain is a growing database of information about transactions. When a transaction is performed, it is sent to the network and included in the next 'block'. This block address is where the actual currency or coins are stored. All previous transactions can be searched for using a block address which can then calculate a balance for an individual customer.

Cyber Attack

On the morning of January 18th, 2019, it was discovered that there was a significant drop in the balance of one of the cryptocurrencies that it stored. Progressive Moniez was immediately taken offline.

Initial investigations determined that funds had been taken and other customer data had been accessed.

A preliminary report highlighted different possible vulnerabilities in the system that could have been used by the hackers to gain access including:

- a lack of version control software leading to unpatched software;
- employees not following security policies and procedures;
- the use of third party publicly released code;
- providing a service to customers by storing their virtual wallets.

Further research

To prepare for the examination, you should research the following themes:

- how cryptocurrency transactions and wallets work;
- what details would be required to complete a cyber security incident report, how it could be used, how the vulnerabilities identified could have been used to attack Progressive Moniez and the techniques that would have been used;
- the relevant cyber security legislation, including implications, that should be considered;
- the different types of targets for cyber security threats;
- the feature(s) of different testing and monitoring measures that could be used to protect the network;
- the use of monitoring and control systems and how they could be used to manage cyber security at Progressive Moniez.

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