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AIRQKD

Experimentations with the CQP Toolkit

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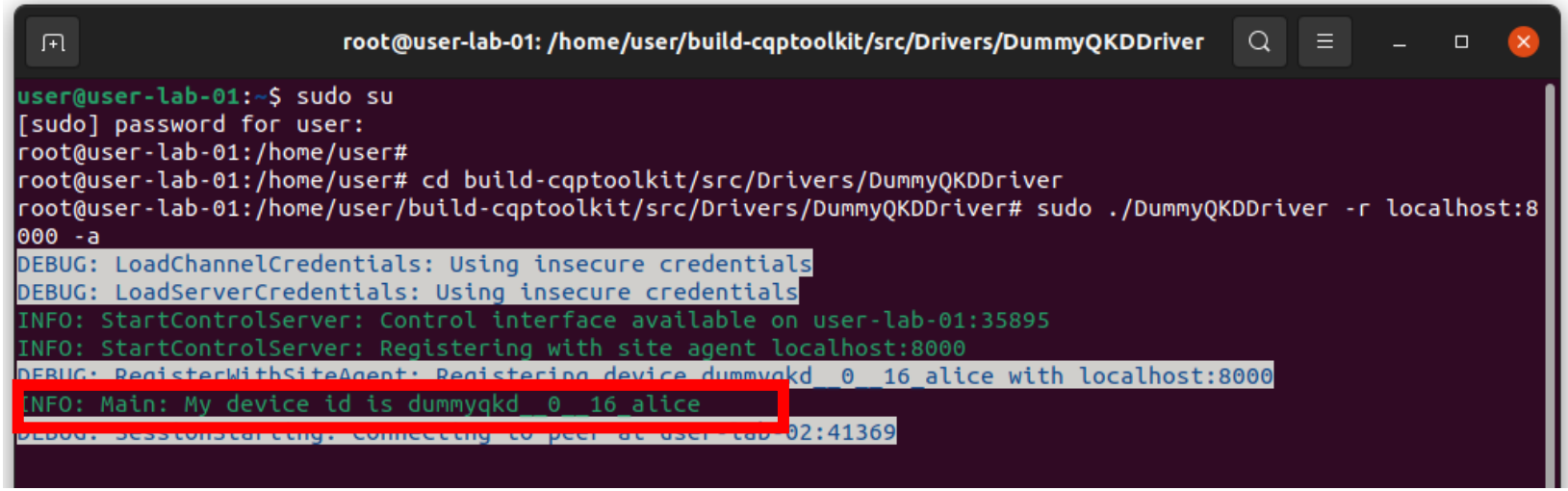
Testing the CQP Toolkit with Dummy QKD Drivers (network deployment)

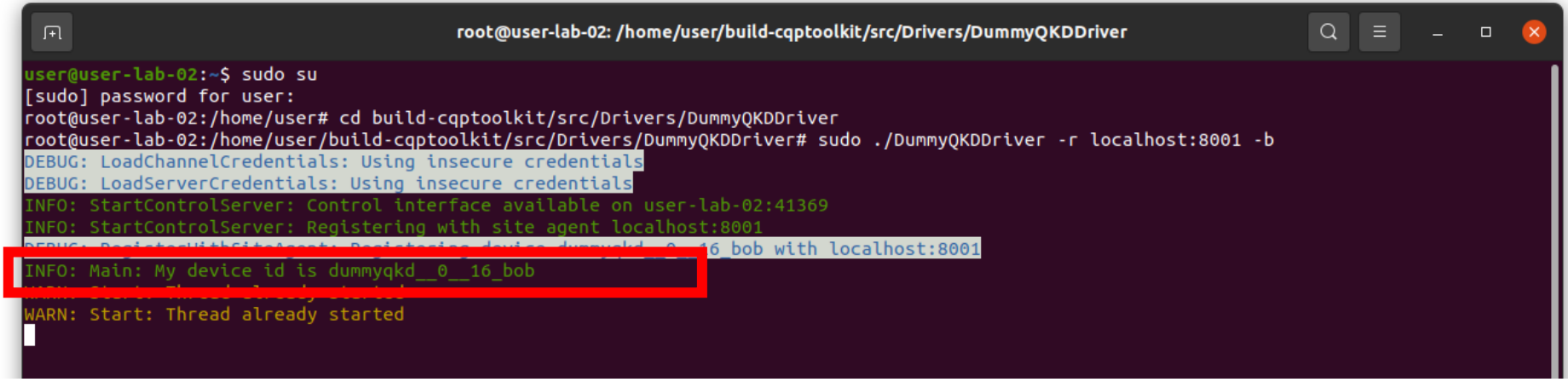
- Objective: to use the CQP Toolkit and “dummy” CQP QKD drivers to setup a mock key exchange between two nodes (laptops) located in different locations in the network
  - Deploy the dummy CQP QKD drivers on both ends (laptops)
  - Use the CQP Toolkit to synchronize the generated keys
  - Set-up a connection between the two nodes
  - Exchange encrypted data using this connection

Results (I)

A dummy QKD driver on Alice laptop

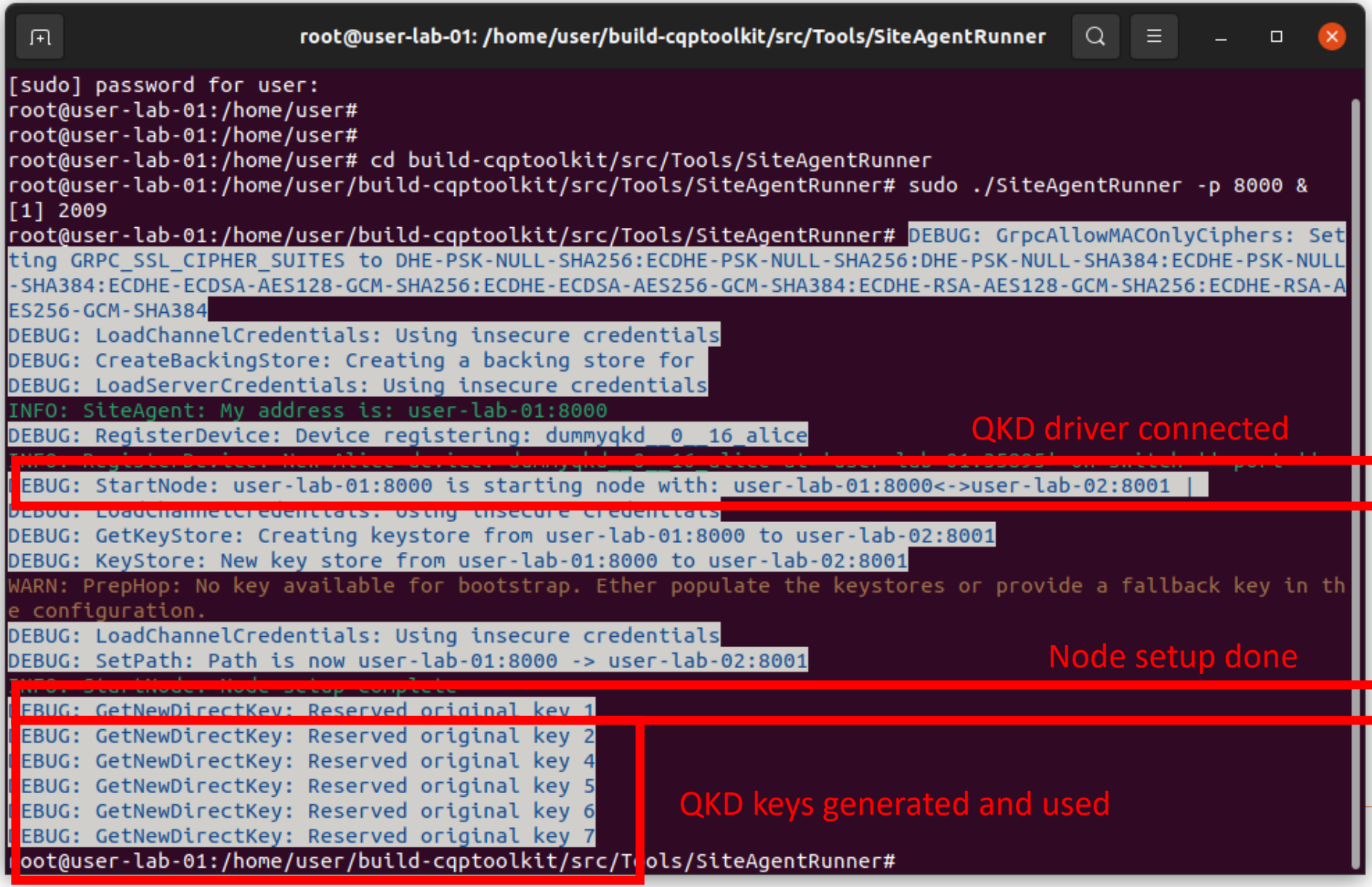


A dummy QKD driver on Bob laptop



Results (II)

The s/w module Site Agent on Alice laptop

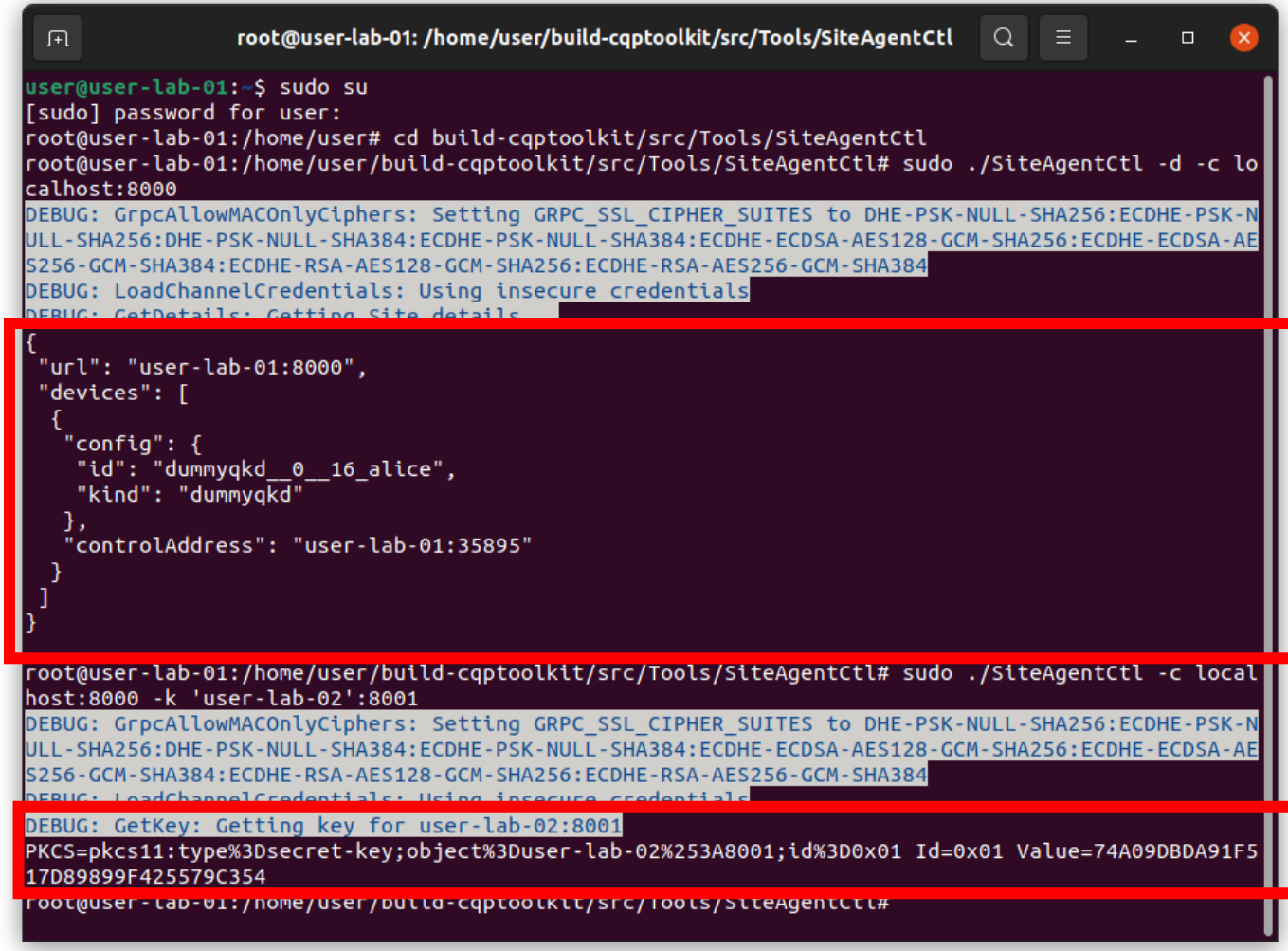


Results (III)

The s/w module Site Agent on Bob laptop

Results (IV)

Site Agent Controller software module on Alice laptop



Site Agent configuration

Key retrieval

QKD keys generated and used

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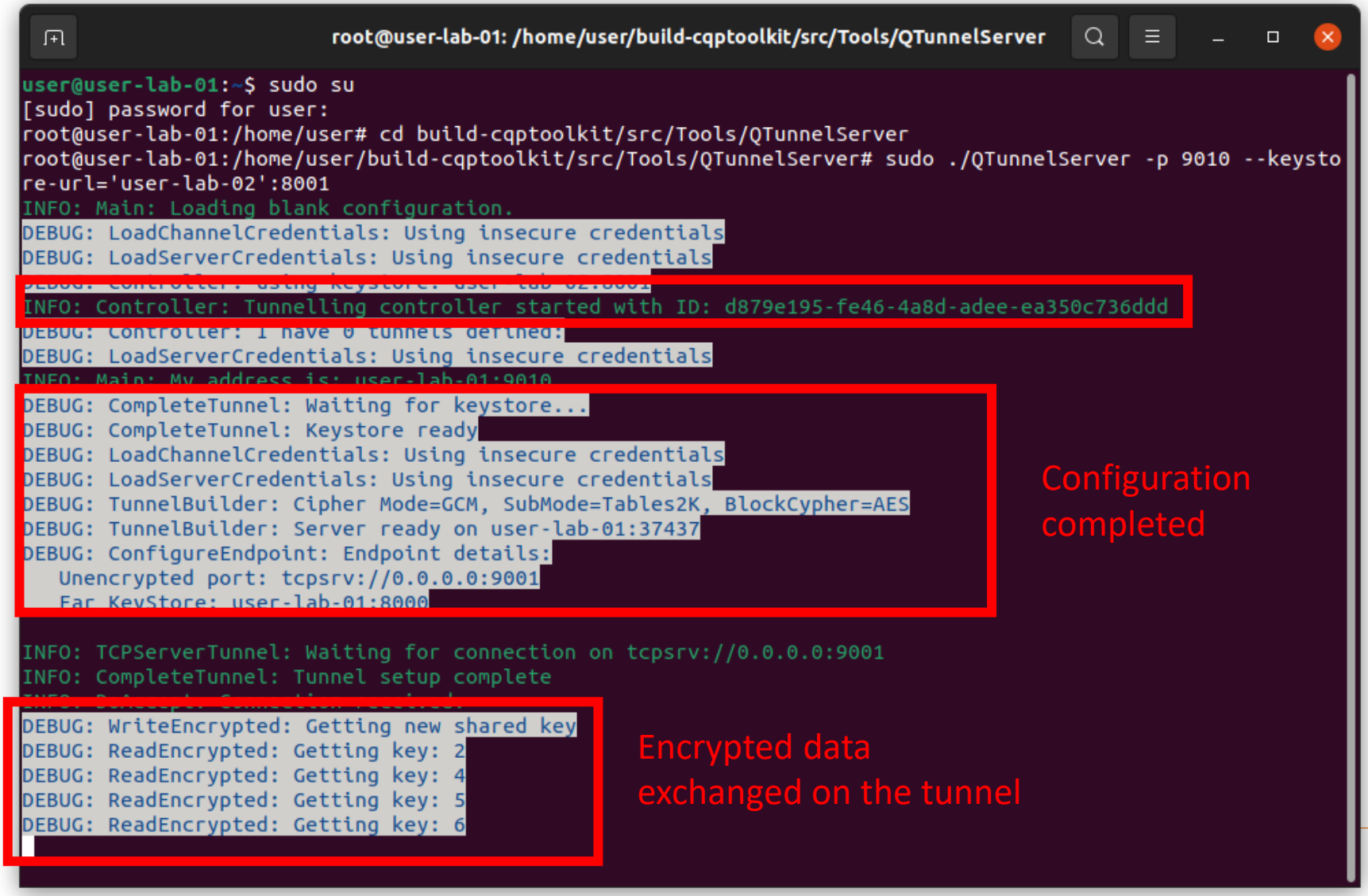
Results (V)

Site Agent Controller software module on Bob laptop

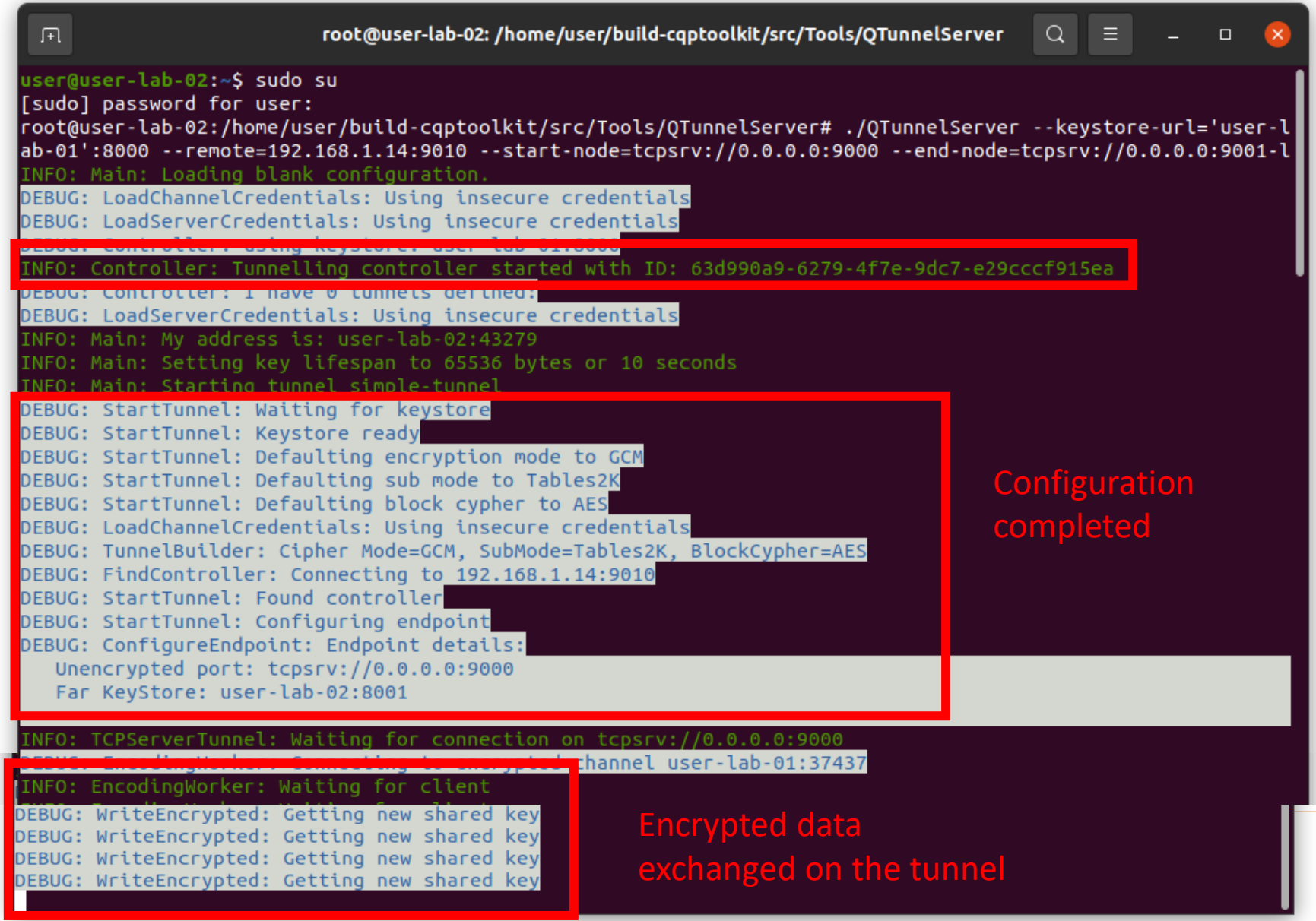
Results (VI)

Establishing a connection (tunnel) on Alice side



Results (VII)

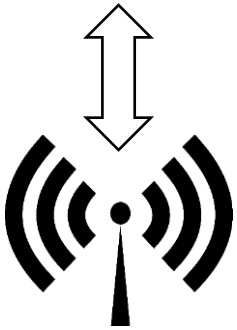
Establishing connection (tunnel) on Bob side



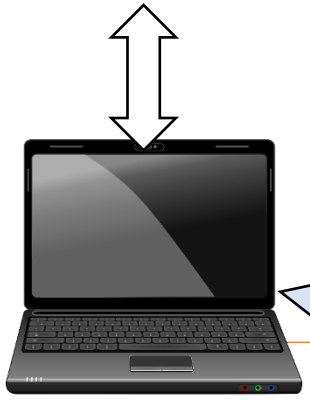
Results (VIII)

Application's encrypted data exchange between Alice and Bob laptops

Laptop (Alice)



WIFI Access Point



Laptop (Bob)

Alice

root@user-lab-01: /home/user

```
user@user-lab-01:~$ sudo su
[sudo] password for user:
root@user-lab-01:/home/user# nc localhost 9001
hello
hello from a AirQKD QKD encrypted connection!!!
Greeting to the AirQKD team!!
Bye bye!!
```

QKD based encrypted data exchange

Bob

root@user-lab-02: /home/user

```
user@user-lab-02:~$ sudo su
[sudo] password for user:
root@user-lab-02:/home/user#
root@user-lab-02:/home/user#
root@user-lab-02:/home/user# nc localhost 9000
hello
hello from a AirQKD QKD encrypted connection!!!
Greeting to the AirQKD team!!
Bye bye!!
```

Thank You!!!