

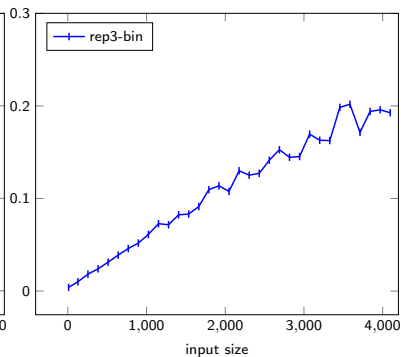
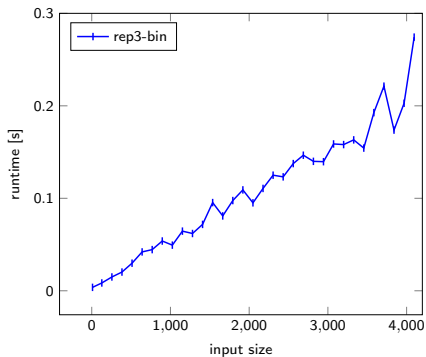
# Sevarebench Measurement Results

MP-SPDZ Replicated-Bin Scalable Search

Unencrypted vs. Encrypted Communication

December 10, 2022

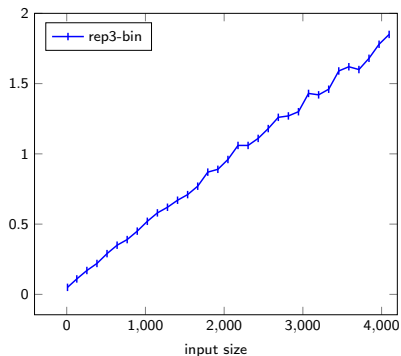
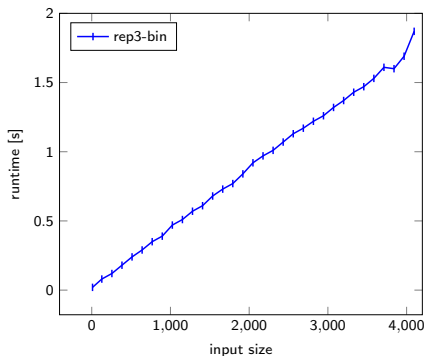
# RepSearch Internal Runtime



- Ref.Problem: Scalable Search unencrypted
- Protocols: MP-SPDZ
- Metric: Input - Runtime
- Node: ether

- Ref.Problem: Scalable Search encrypted
- Protocols: MP-SPDZ
- Metric: Input - Runtime
- Node: ether

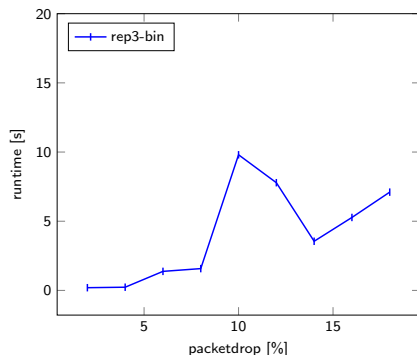
# RepSearch External Runtime



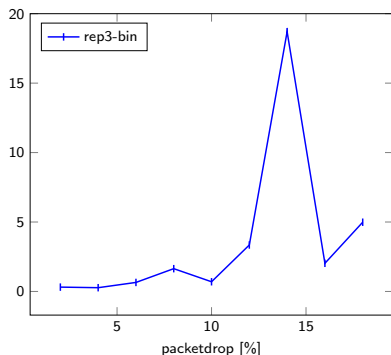
- Ref.Problem: Scalable Search unencrypted
- Protocols: MP-SPDZ
- Metric: Input - Runtime
- Node: ether

- Ref.Problem: Scalable Search encrypted
- Protocols: MP-SPDZ
- Metric: Input - Runtime
- Node: ether

# RepSearch Packetdrop at Input 4096

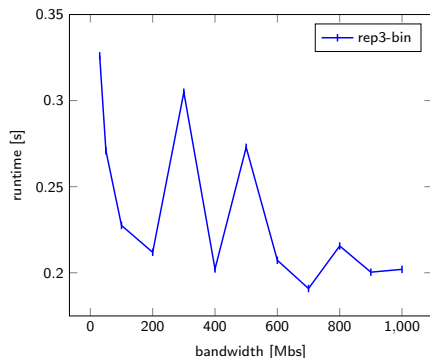


- Ref.Problem: Scalable Search unencrypted
- Protocols: MP-SPDZ
- Metric: Packetdrops - Runtime at input 4096
- Node: ether

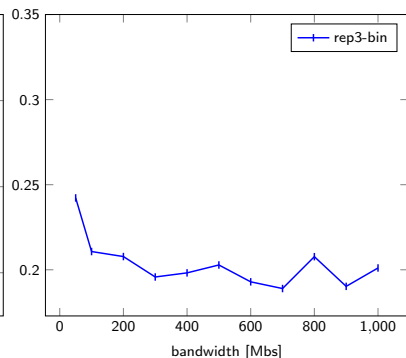


- Ref.Problem: Scalable Search encrypted
- Protocols: MP-SPDZ
- Metric: Packetdrops - Runtime at input 4096
- Node: ether

## RepSearch Bandwidth at Input 4096

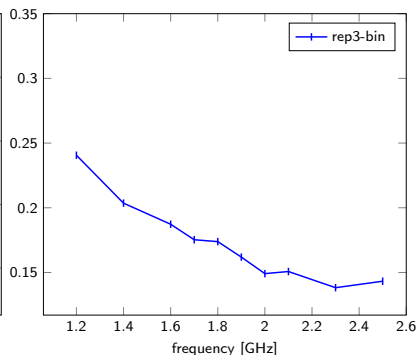
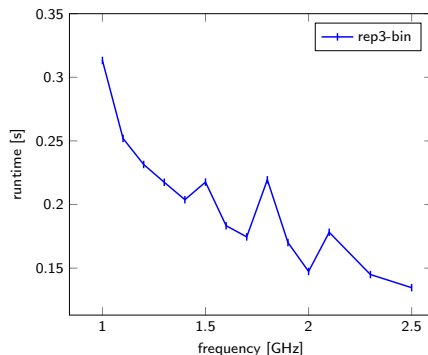


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- Ref.Problem: Scalable Search encrypted
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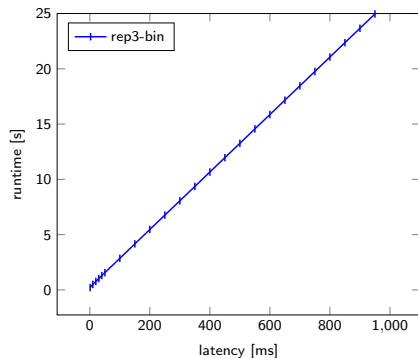
## RepSearch Frequency at Input 4096



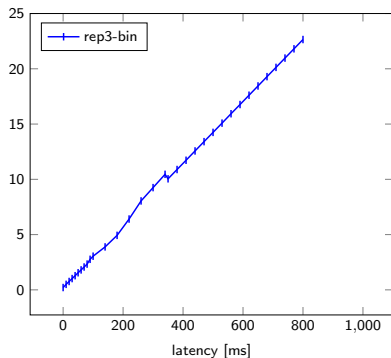
- Ref.Problem: Scalable Search unencrypted
- Protocols: MP-SPDZ
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- Node: ether

- Ref.Problem: Scalable Search encrypted
- Protocols: MP-SPDZ
- Metric: Frequency - Runtime at input 4096
- Node: ether

## RepSearch Latency at Input 4096

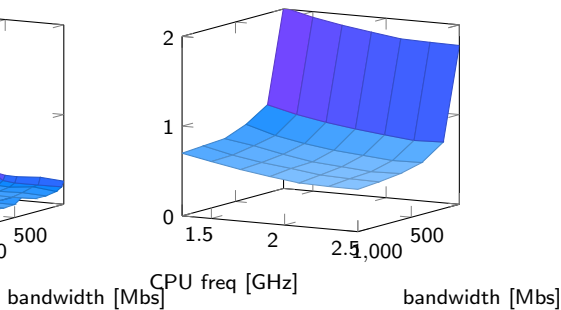
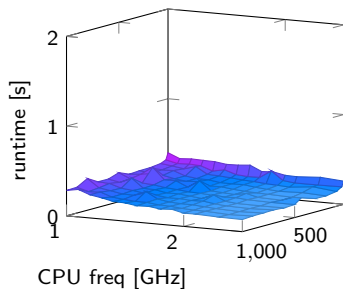


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- Protocols: MP-SPDZ
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- Ref.Problem: Scalable Search encrypted
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## CPU Bandwidth Frequency rep3-bin

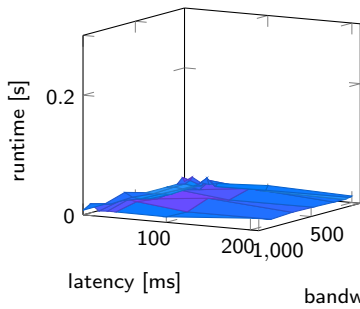


- Ref.Problem: Scalable Search unencrypted
- Protocols: MP-SPDZ
- Metric: Bandwidth - Frequency - Runtime at input 4096
- Node: ether

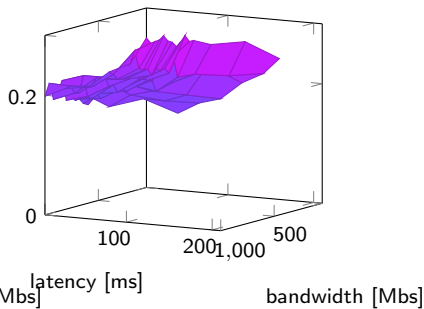
- Ref.Problem: Scalable Search encrypted
- Protocols: MP-SPDZ
- Metric: Bandwidth - Frequency - Runtime at input 4096
- Node: ether



## CPU Bandwidth Latency rep3-bin



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- Ref.Problem: Scalable Search encrypted
- Protocols: MP-SPDZ
- Metric: Bandwidth - Latency - Runtime at input 4096
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