Leveraging table partitioning for query performance and data archiving

adyen

engineered
for ambition

Derk van Veen

Database specialist

Adyen

adyen

engineered
for ambition

Why?

Why?

Table size limitation

Easier maintenance

Data life cycle management


imgflip.com


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Dates

2025-01-01

2025-02-01

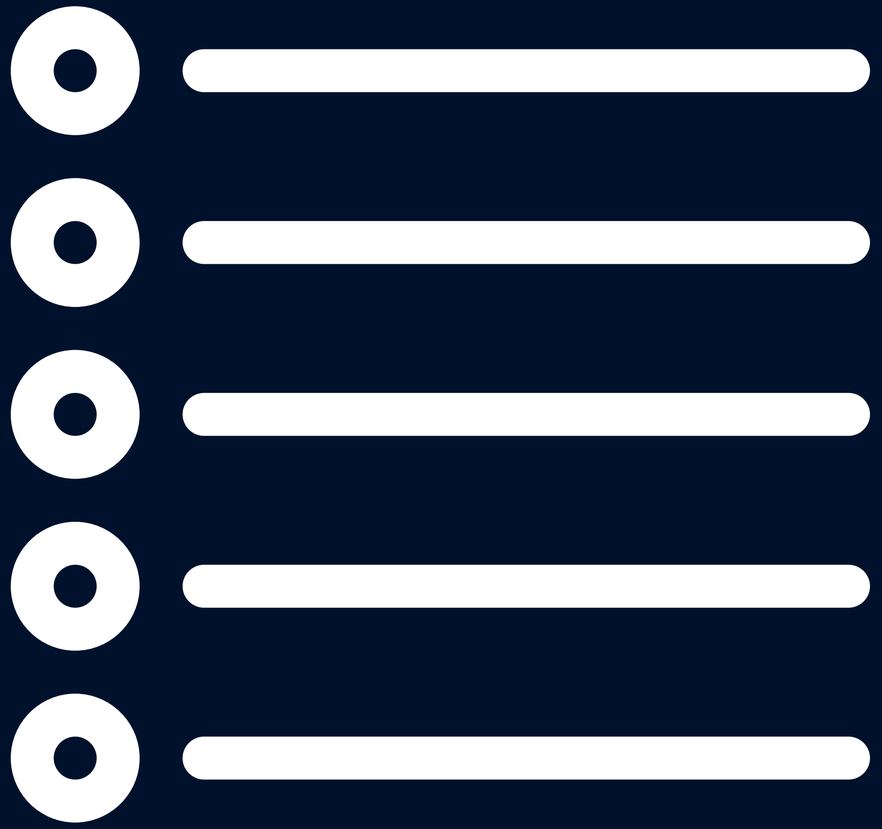
2025-02-01

2025-03-01

2025-03-01

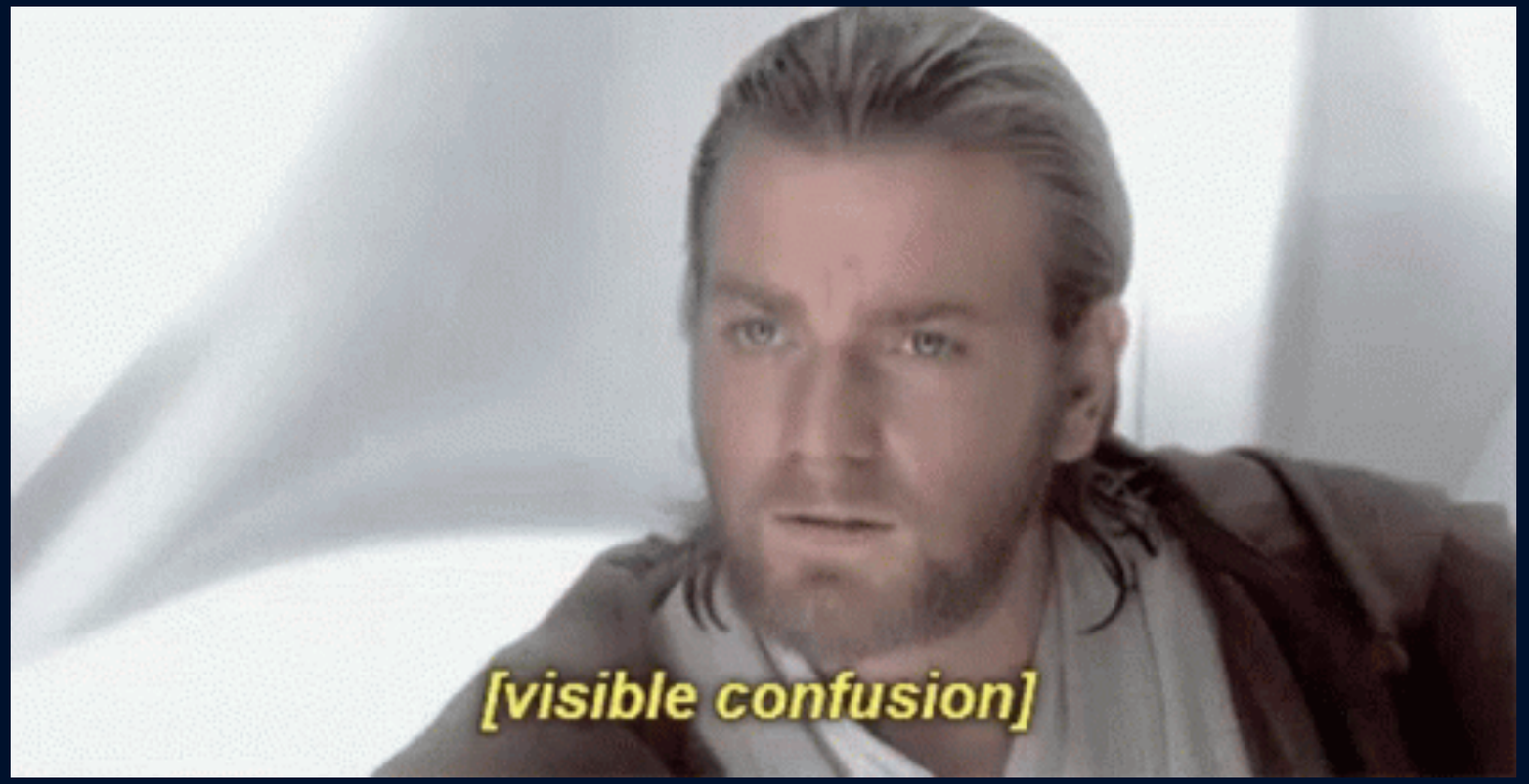
2025-04-01

Integer




0000
1000
1000
2000
2000
3000

uuidv7


[visible confusion]

01941ef2-8d80-79b3-86f8-cb0cf9f1f107

Timestamp in ms


01941ef2-8d80-79b3-86f8-cb0cf9f1f107
Mostly randomness

2025-01-01 00:00

0194be97-b180-7000-8000-000000000000

0194be97-b180-7000-8000-000000000000

01954ec9-c180-7000-8000-000000000000

01954ec9-c180-7000-8000-000000000000

0195ee37-f700-7000-8000-000000000000

2025-01-01 00:00

2025-02-01 00:00

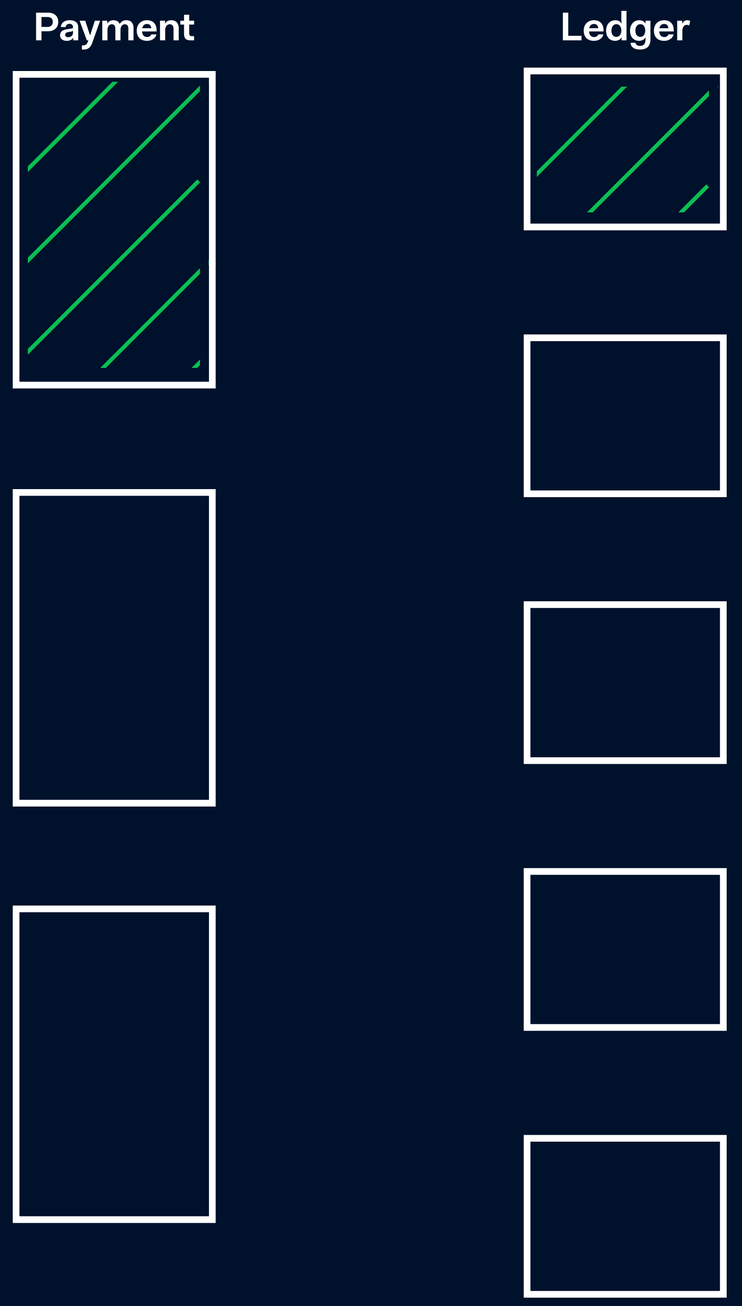
2025-02-01 00:00

2025-03-01 00:00

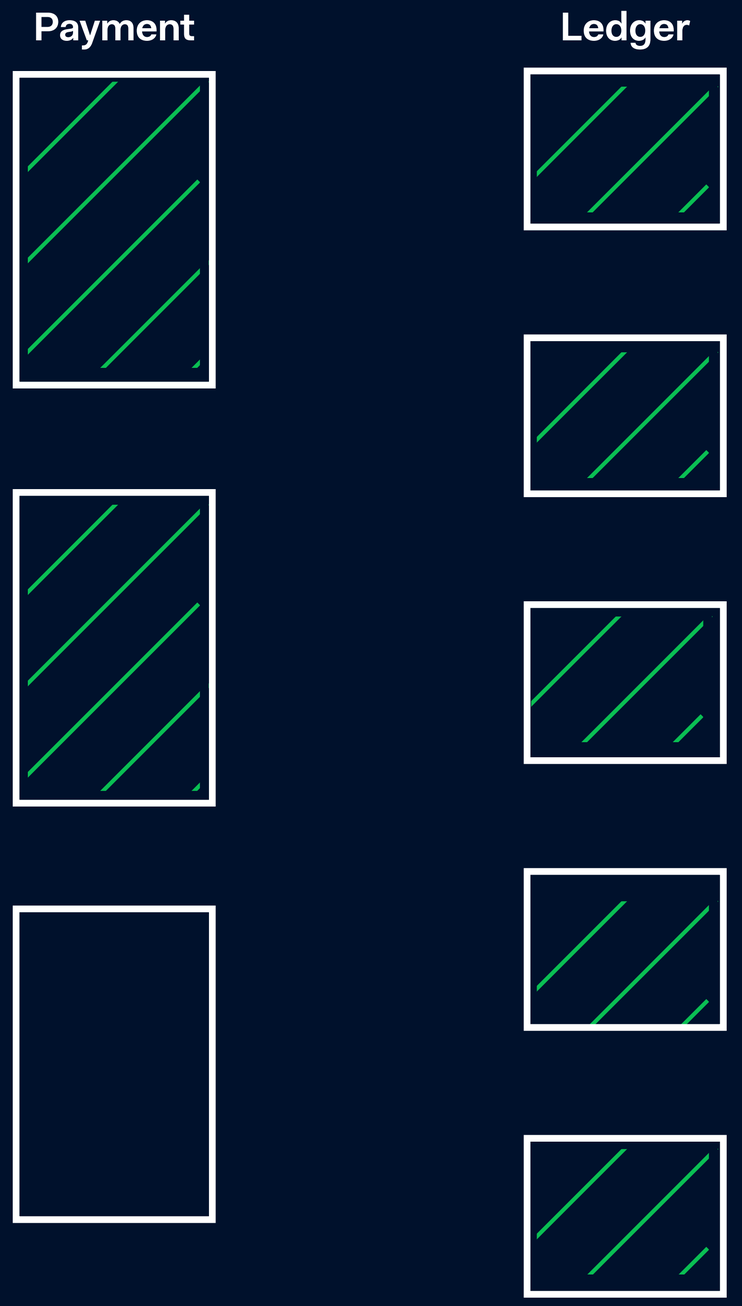
2025-03-01 00:00

2025-04-01 00:00

Joining tables

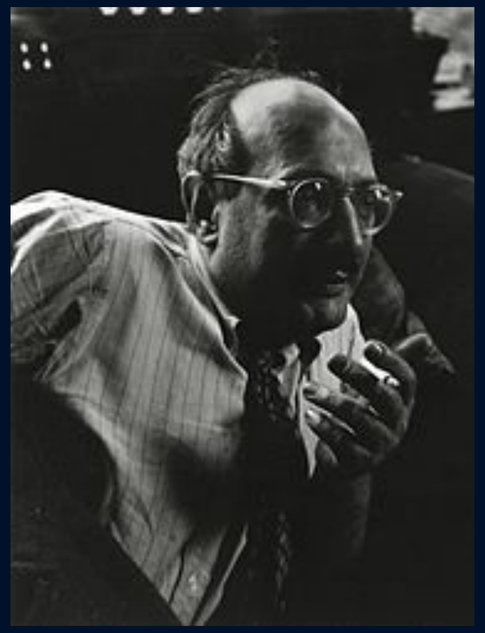



```
Select * from payment p
join ledger l on p.c1 = l.c1
where p.c1 = 500
```

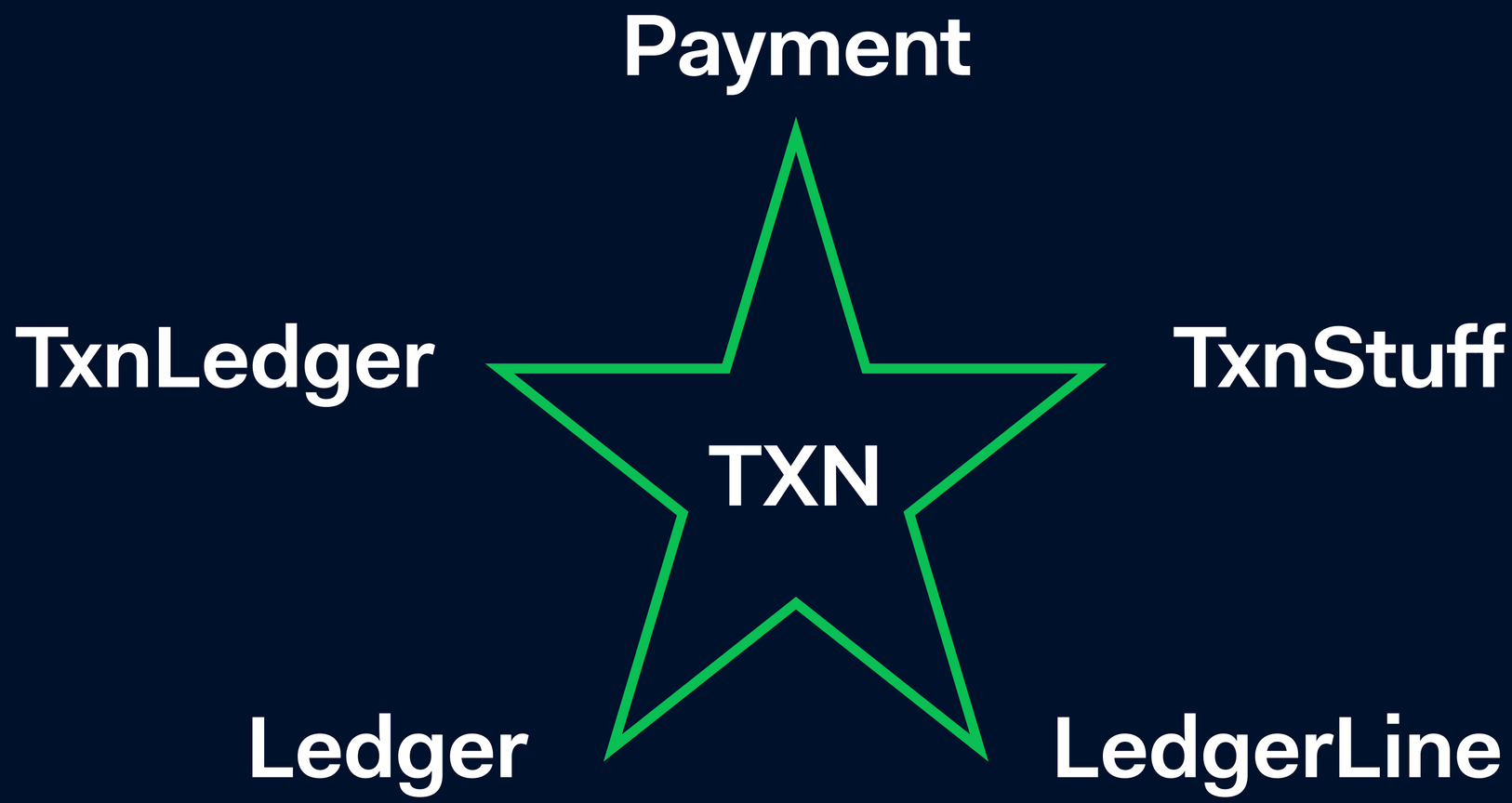


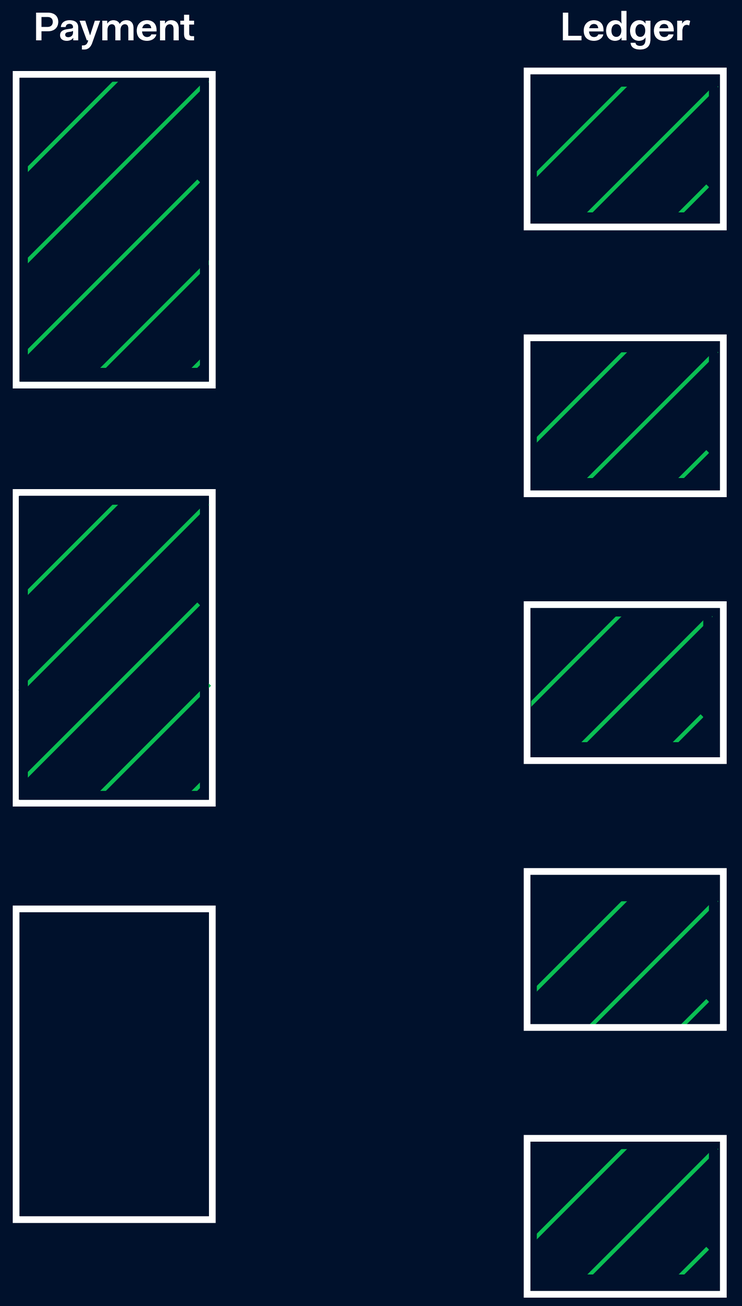

```
Select * from payment p
join ledger l on p.c1 = l.c1
where p.c1 in (500, 1500)
```

Align your partitions Around your leading figure

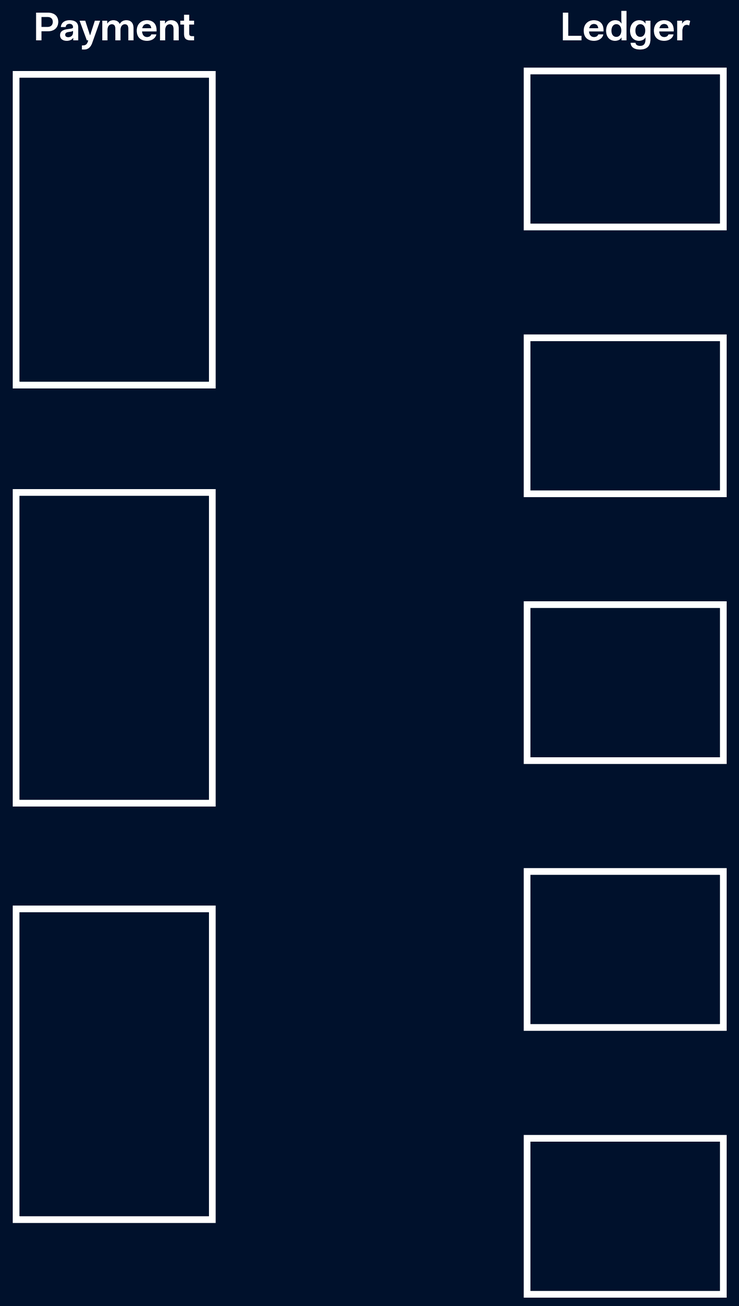


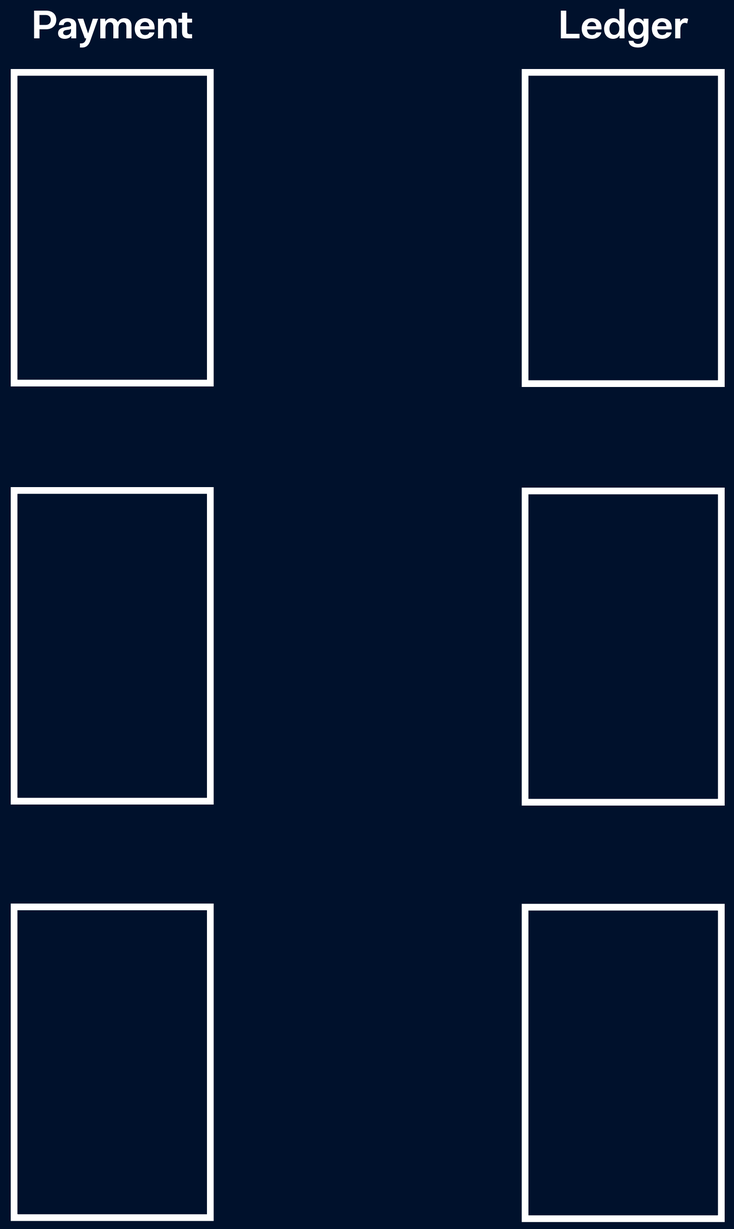
https://simple.wikipedia.org/wiki

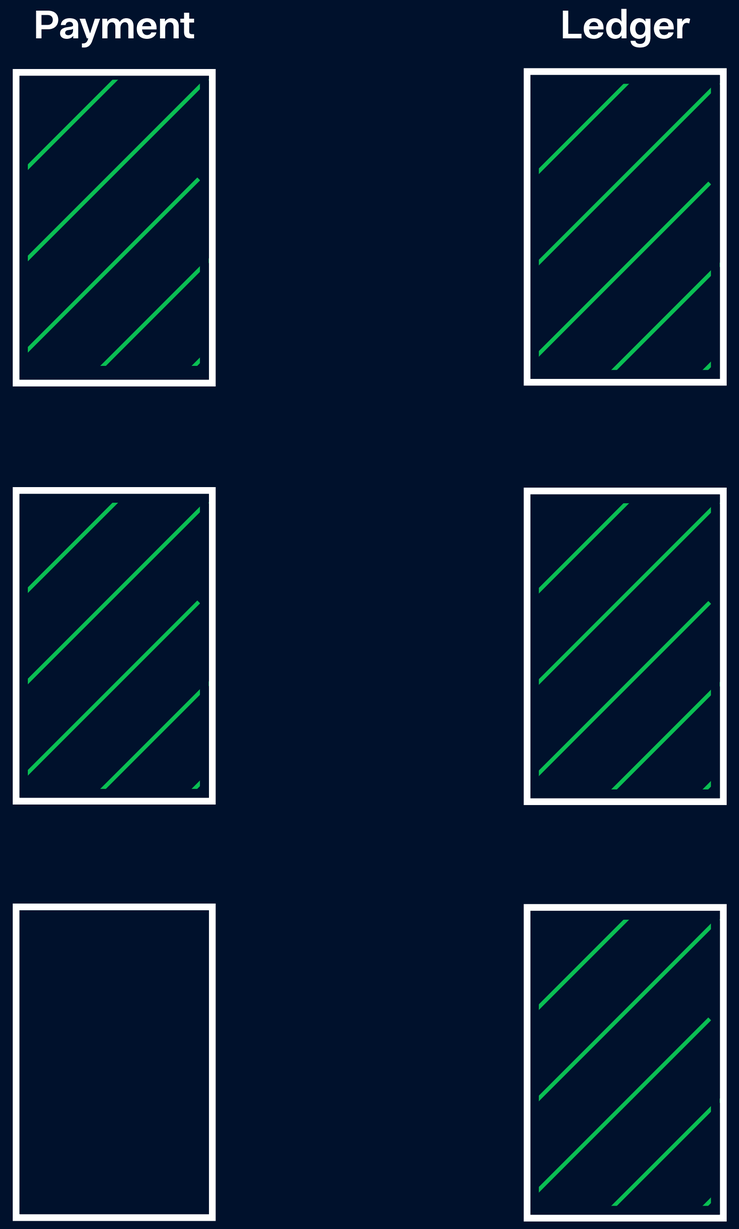

Payment
TxnLedger
TxnStuff
TXN
Ledger
LedgerLine




```
Select * from payment p
join ledger l on p.c1 = l.c1
where p.c1 in (500, 1500)
```

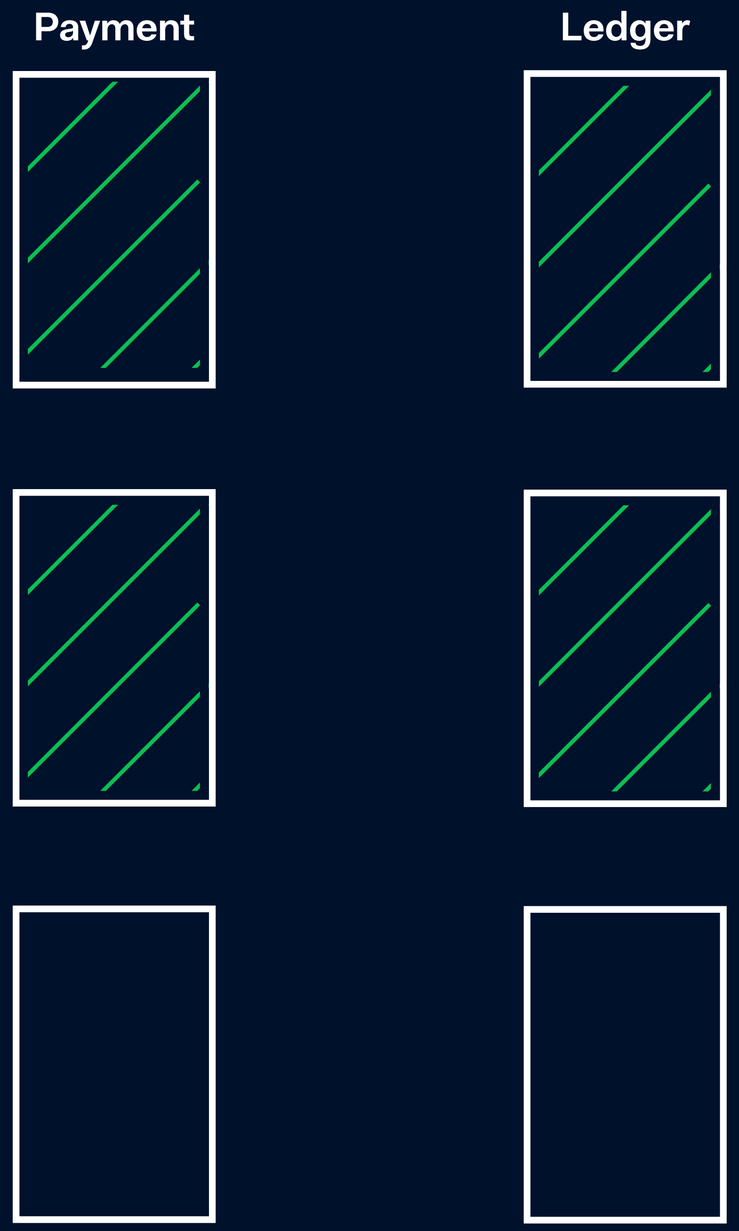

Payment
Ledger


Payment
Ledger



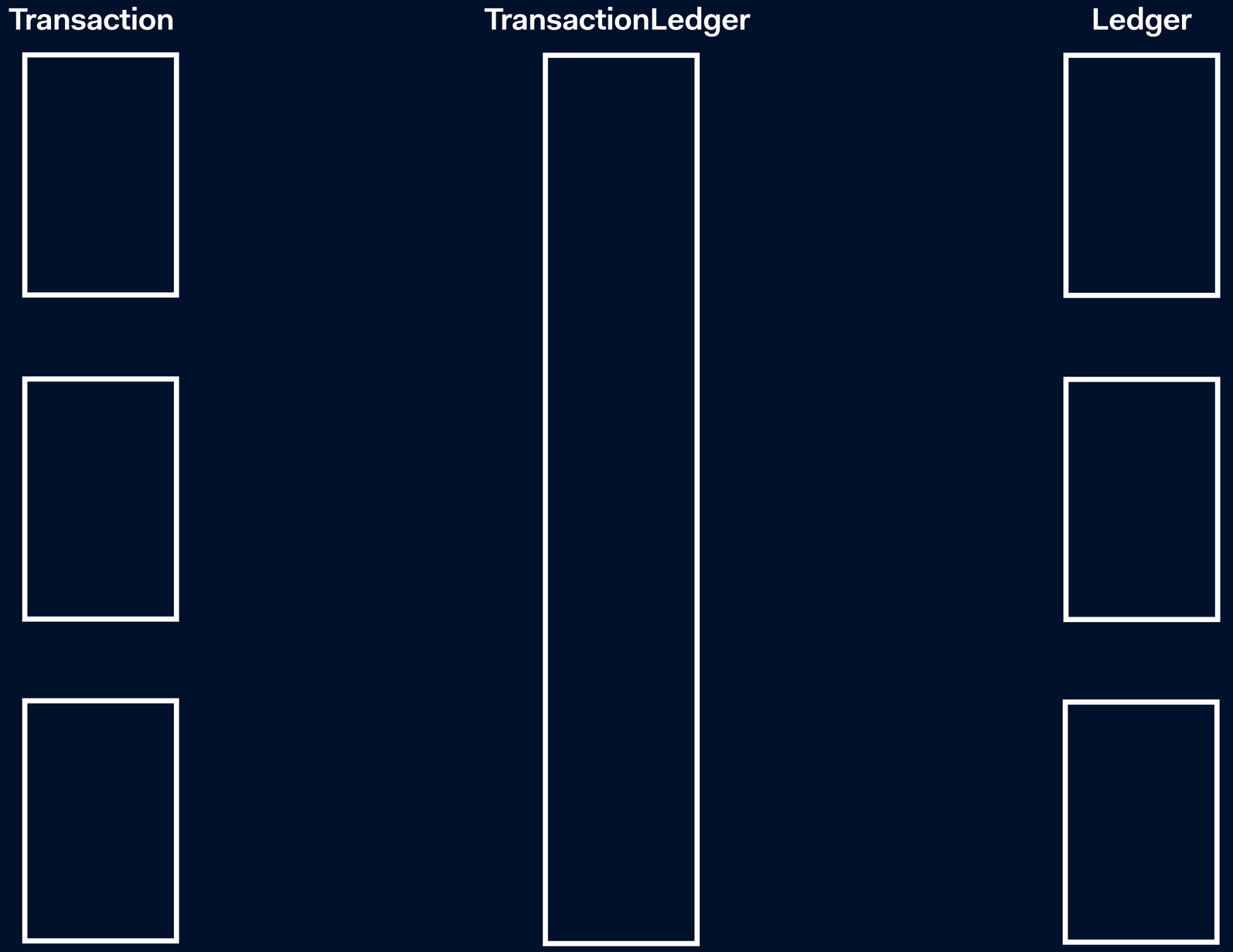

```
Select * from payment p
join ledger l on p.c1 = l.c1
where p.c1 in (500, 1500)
```

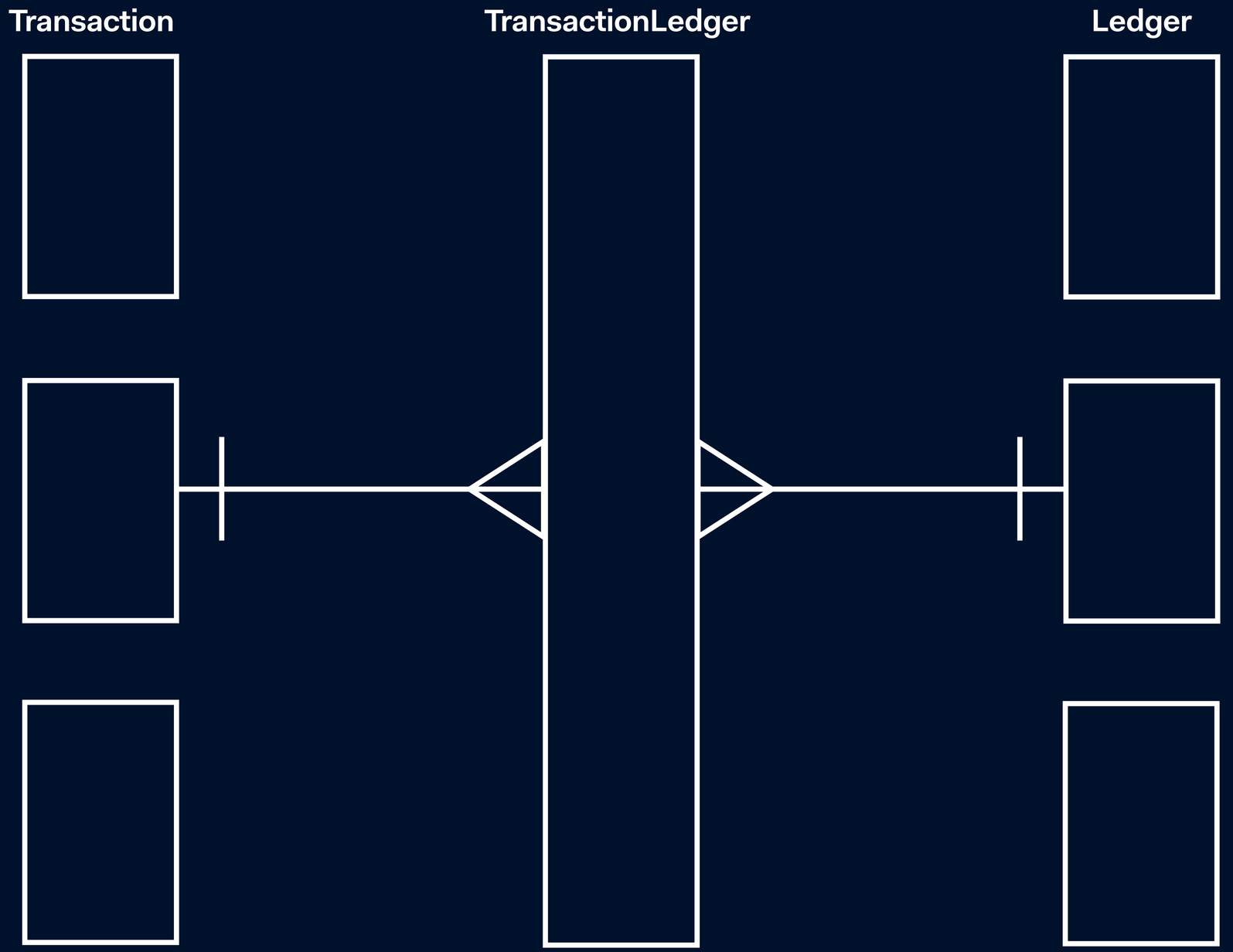

SOUTH PARK
THIS IS GETTING US NOWHERE

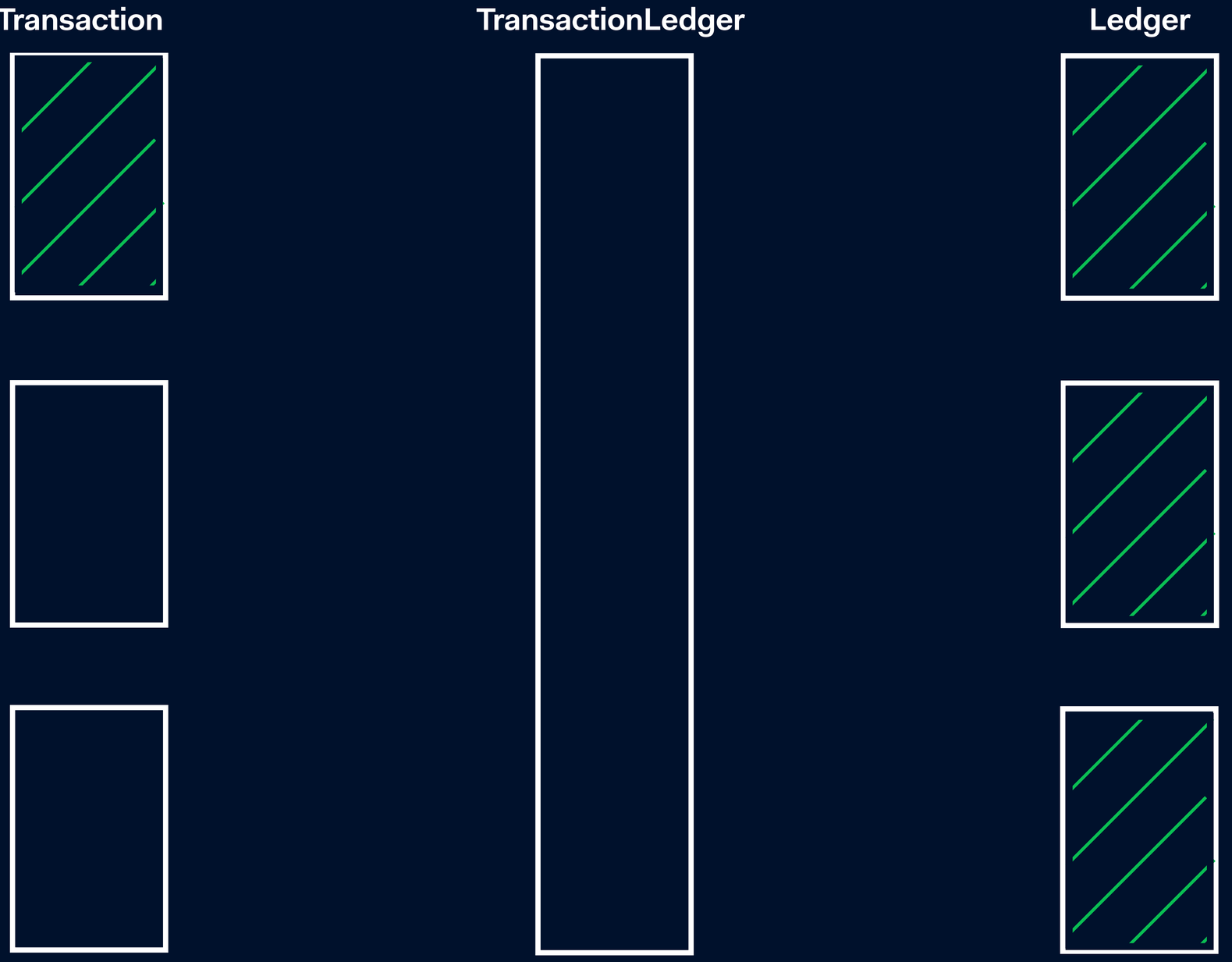


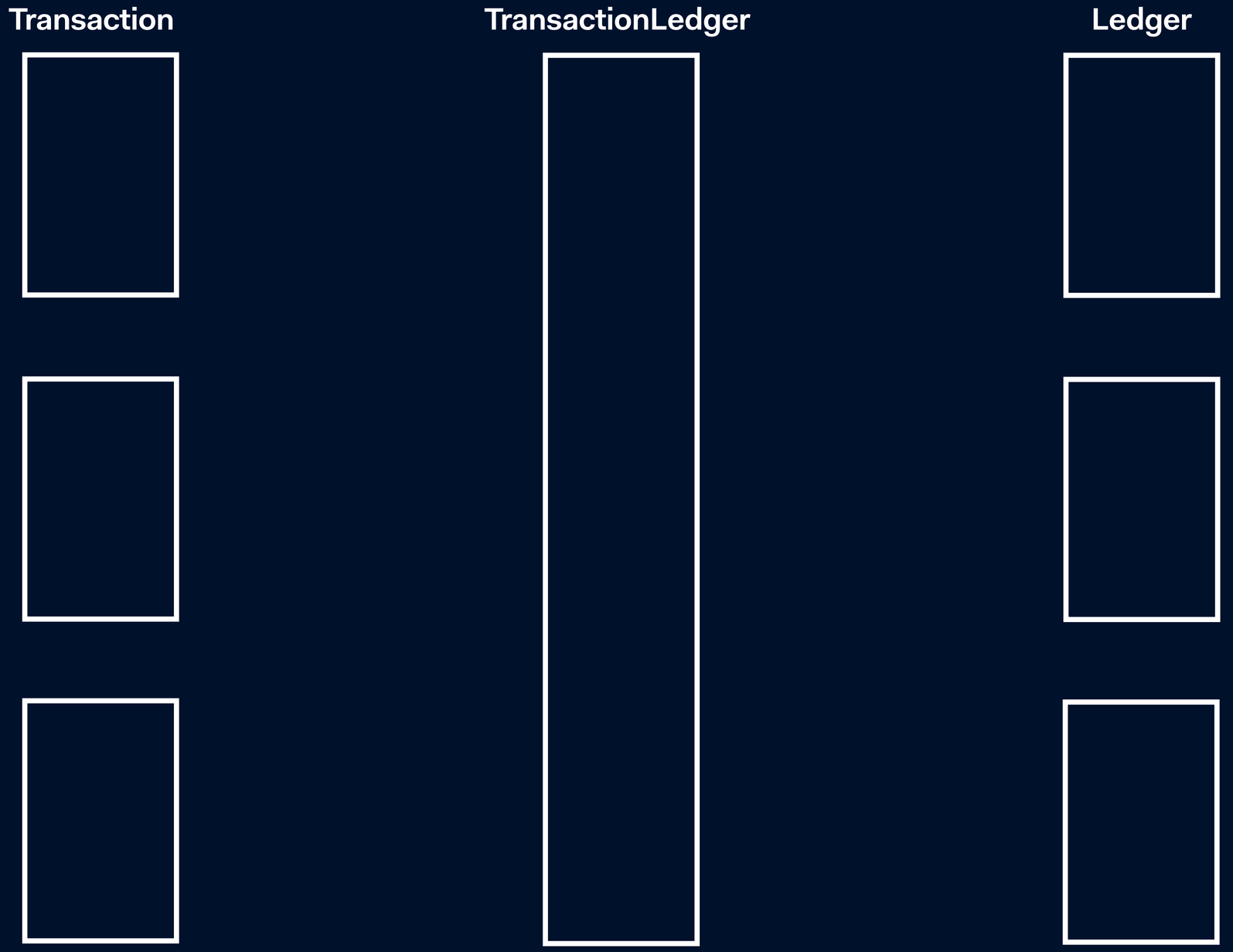

```
 enable_partitionwise_join
---------------------------
 On
```

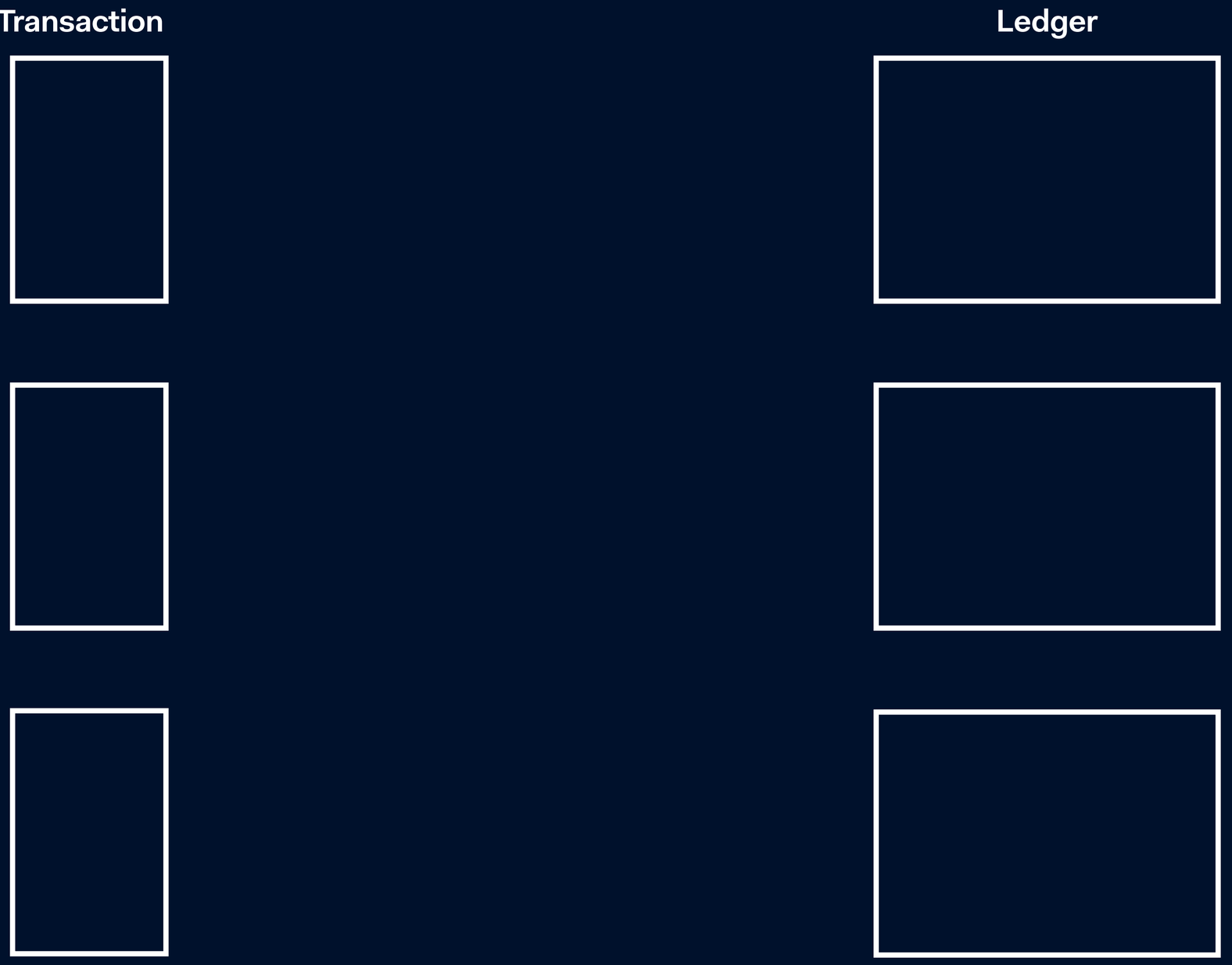
```
Select * from payment p
join ledger l on p.c1 = l.c1
where p.c1 in (500, 1500)
```

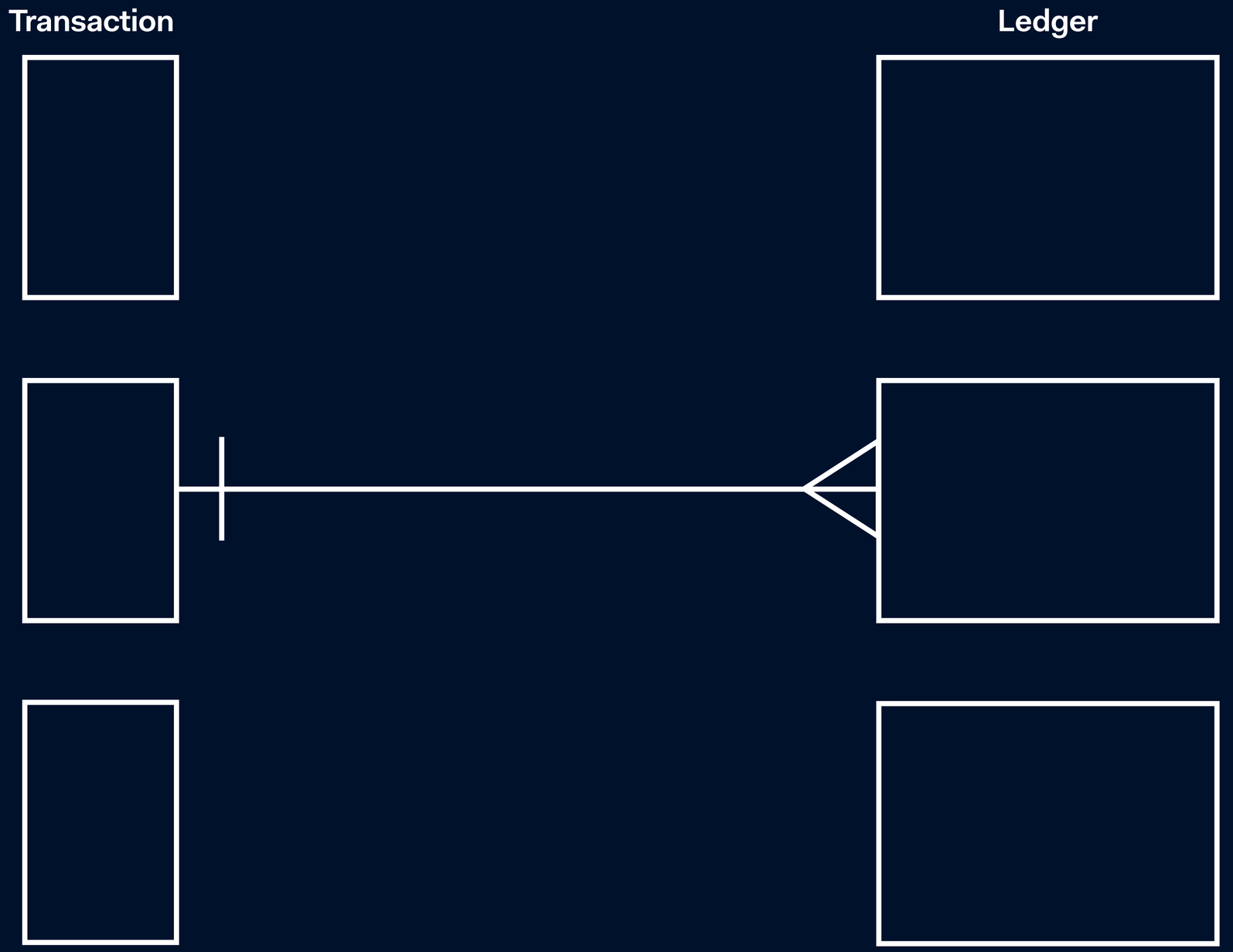

Transaction
TransactionLedger
Ledger


Transaction
TransactionLedger
Ledger


Transaction
TransactionLedger
Ledger


Transaction
TransactionLedger
Ledger


Transaction
Ledger

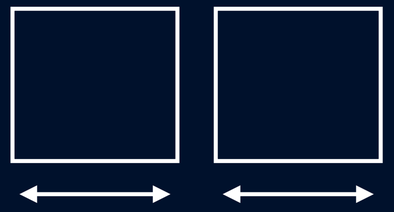

Transaction
Ledger


LADIK05

Prerequisites

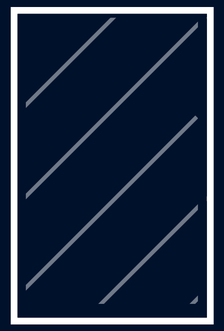
Leading figure

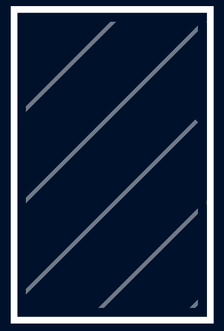
Range based partitioning

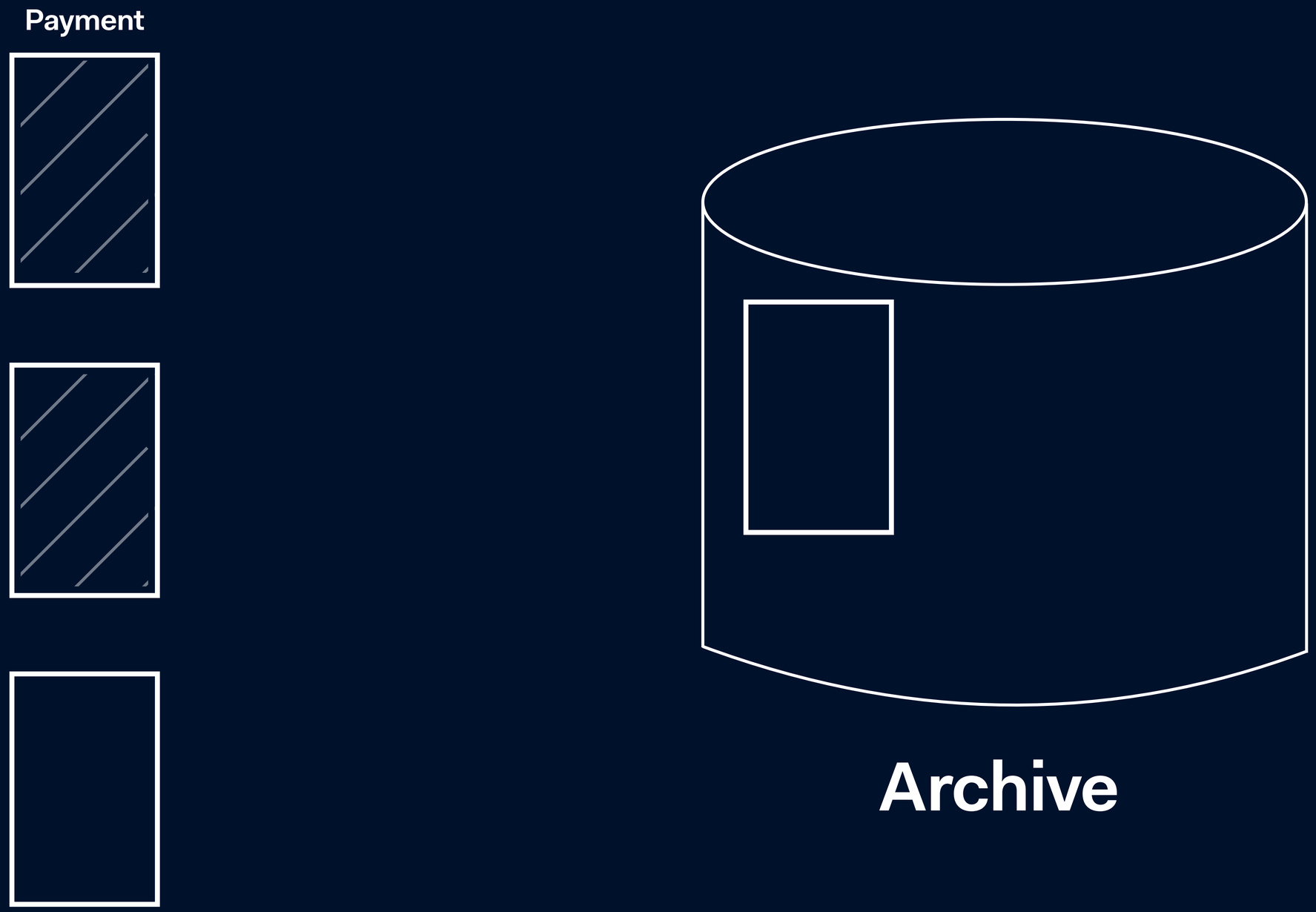


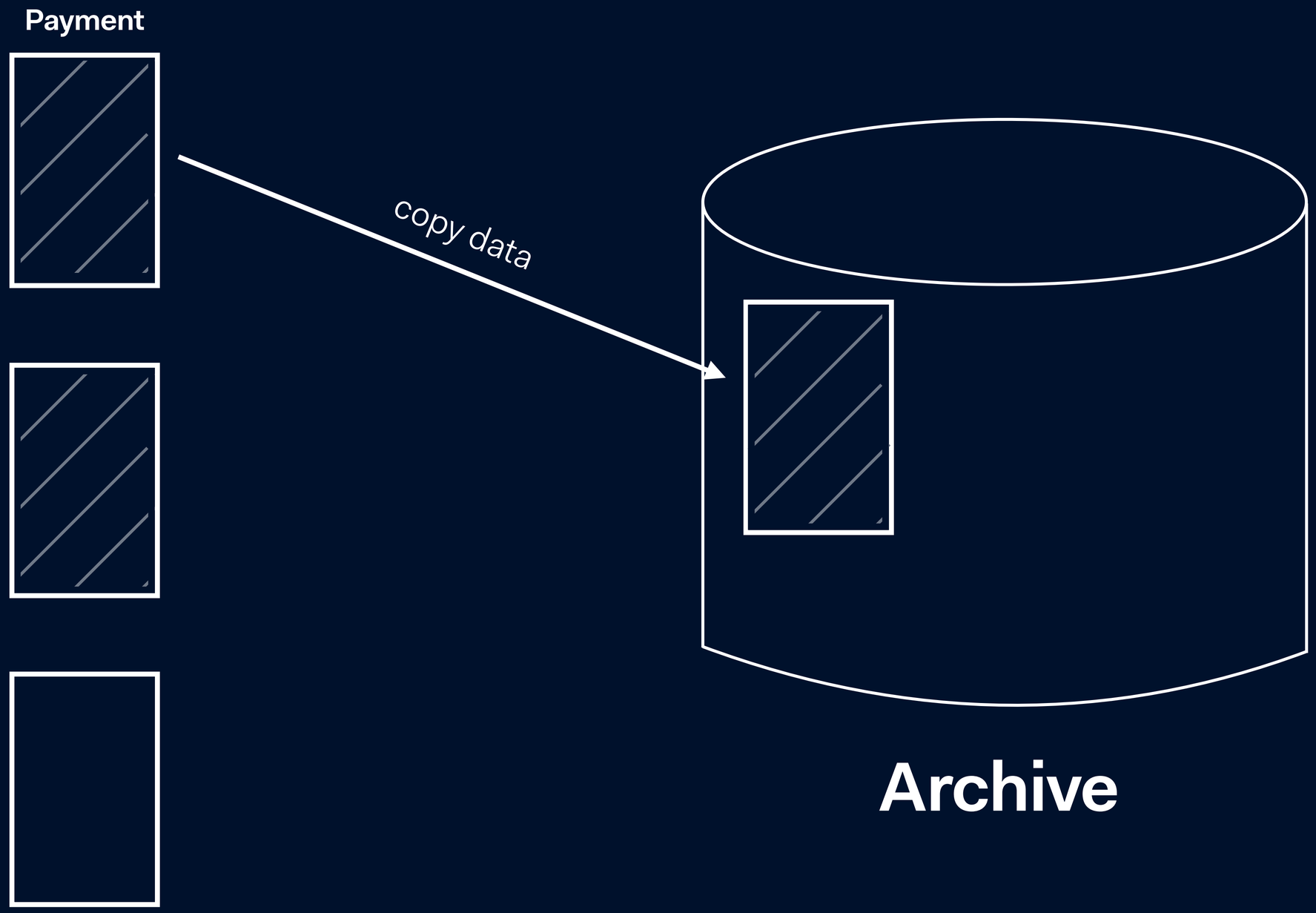
Aligned partitions

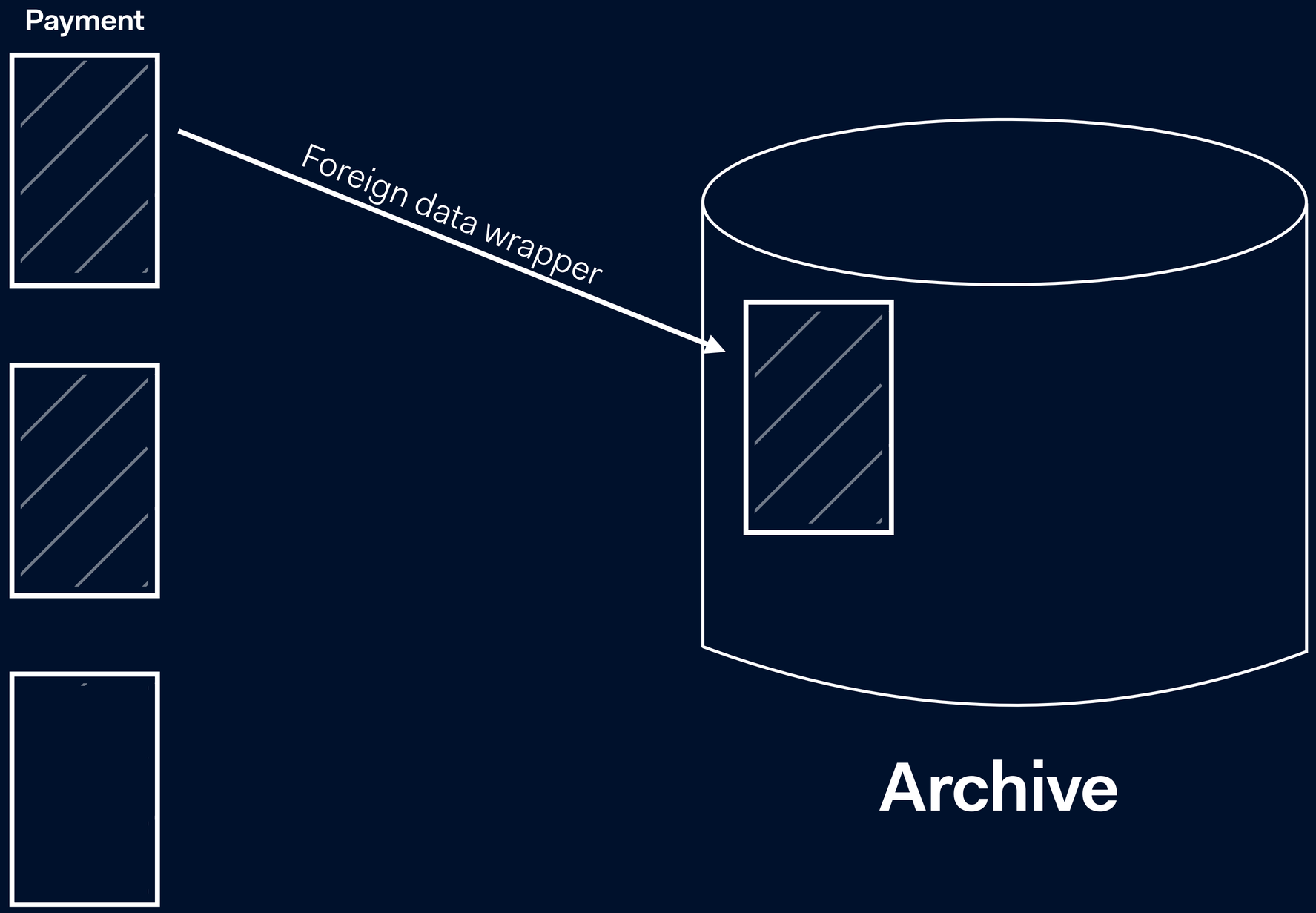
Payment

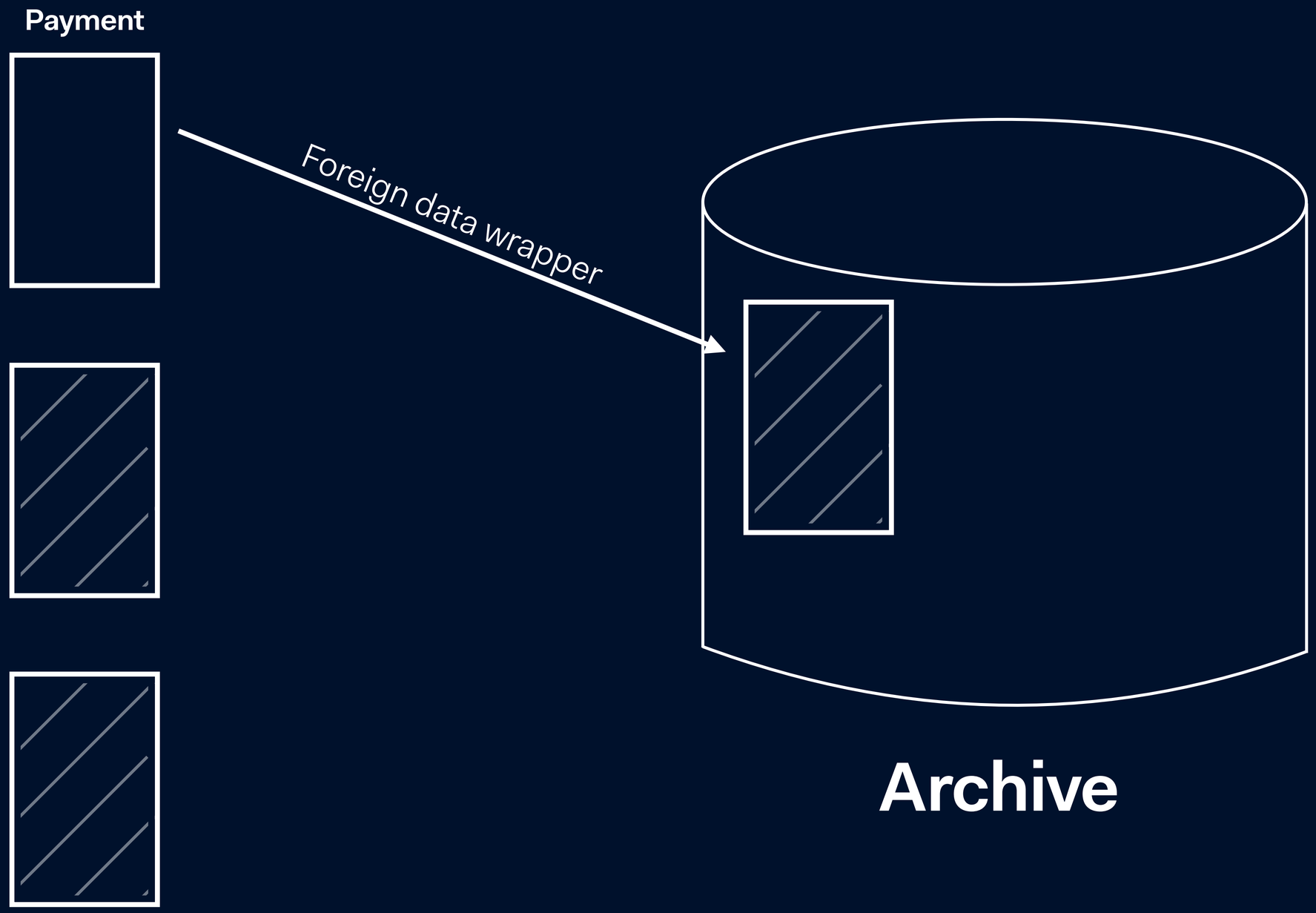





Payment
Archive


Payment
copy data
Archive


Payment
Foreign data wrapper
Archive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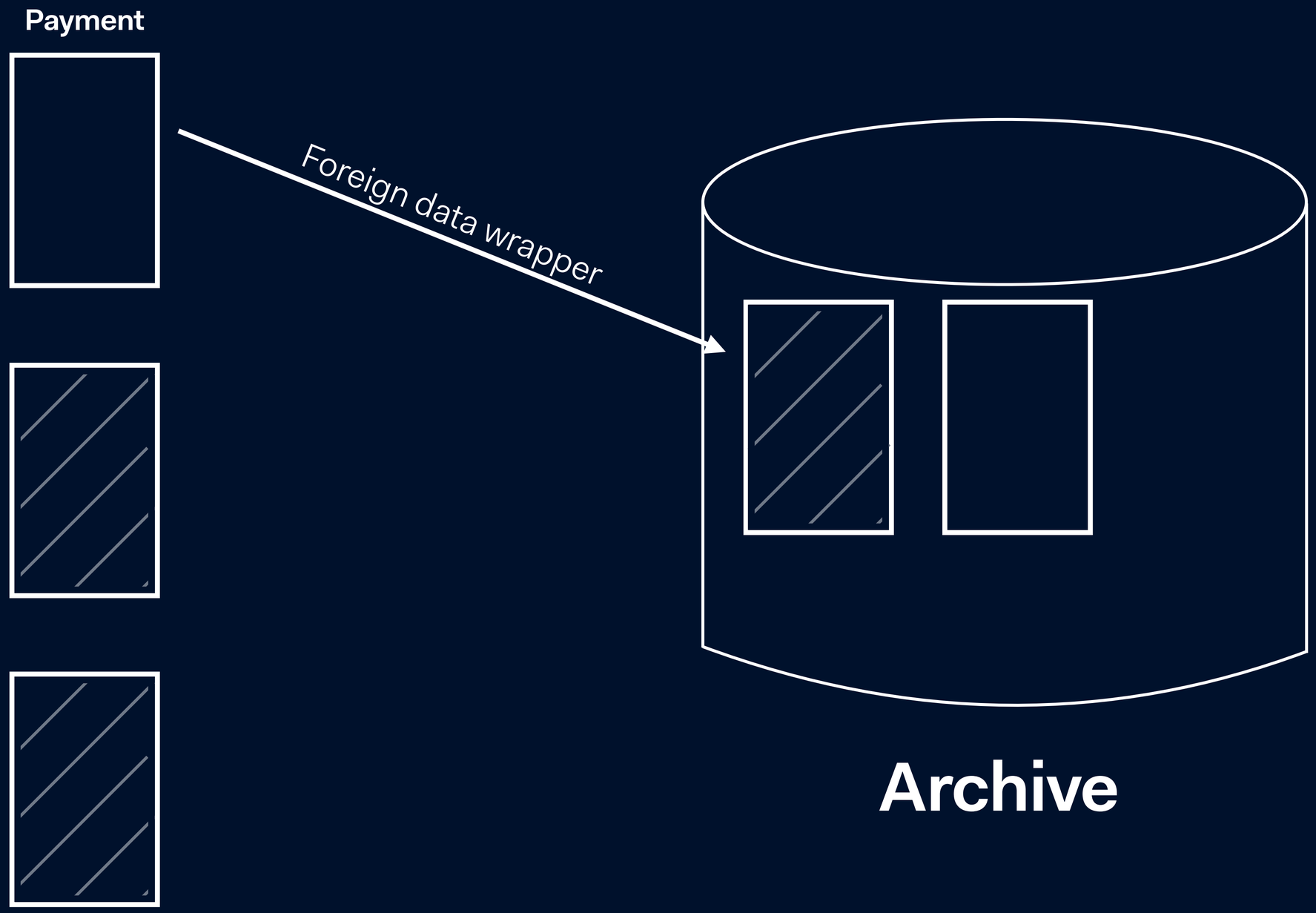
Archive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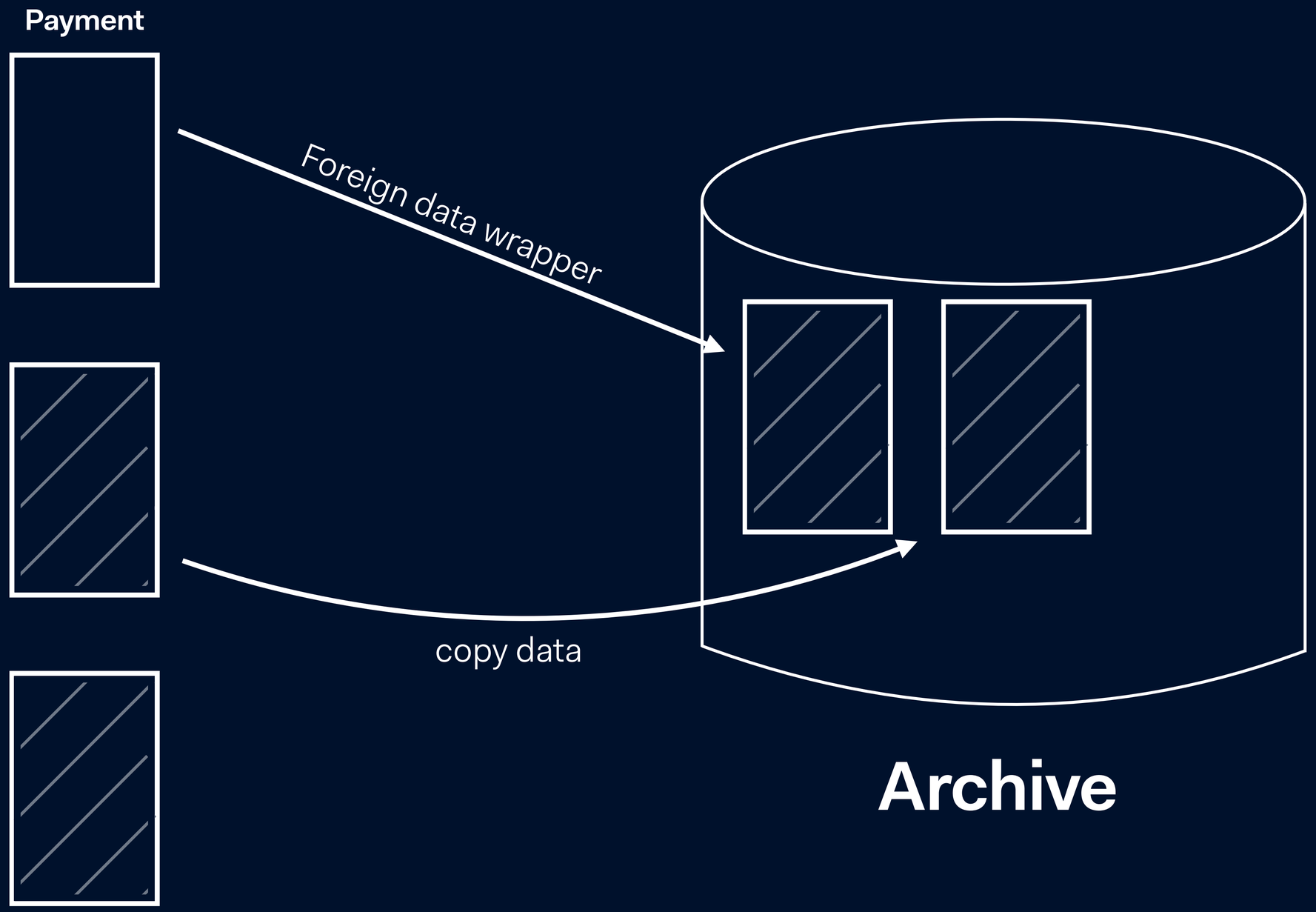
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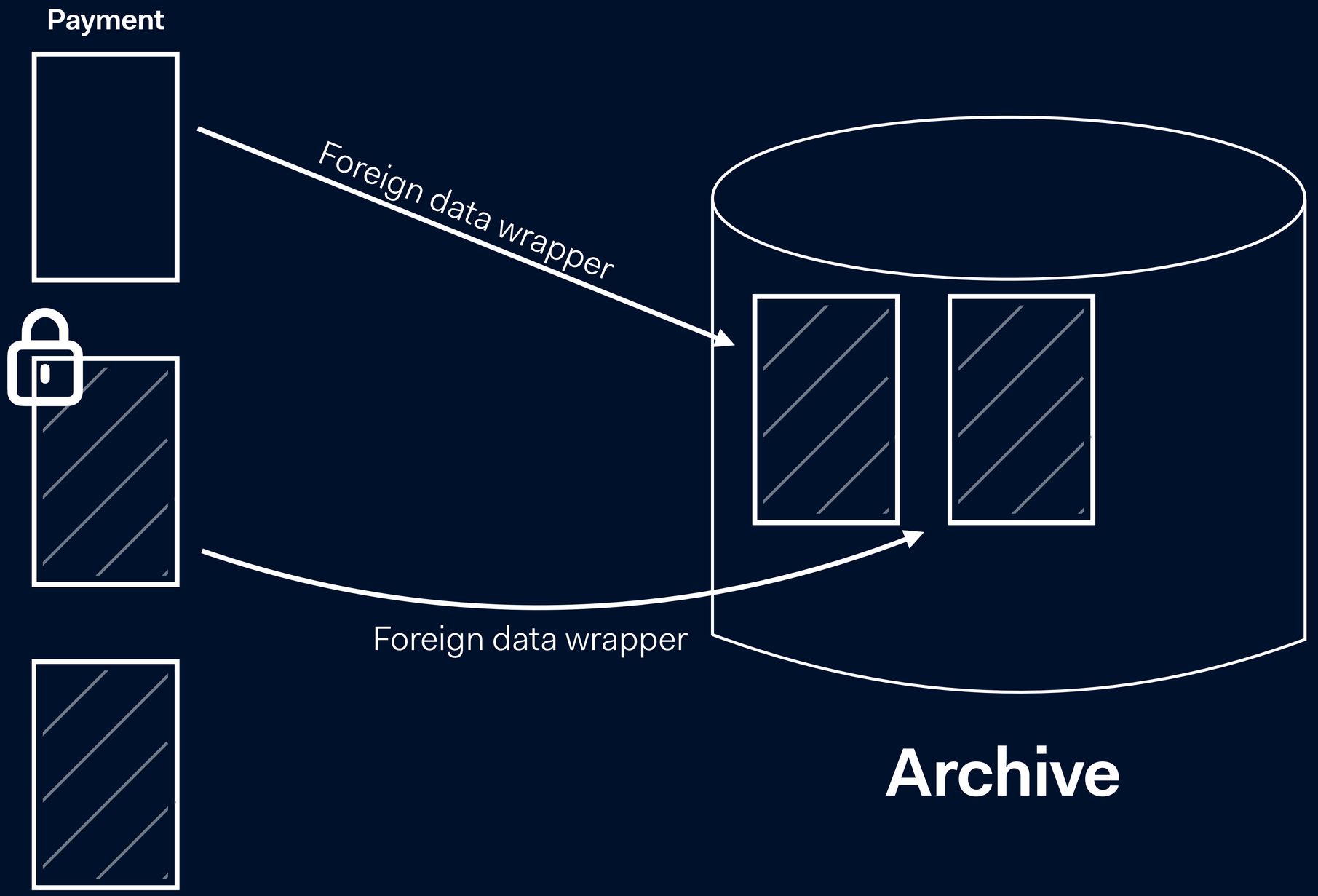
Foreign data wrapper
copy data
Archive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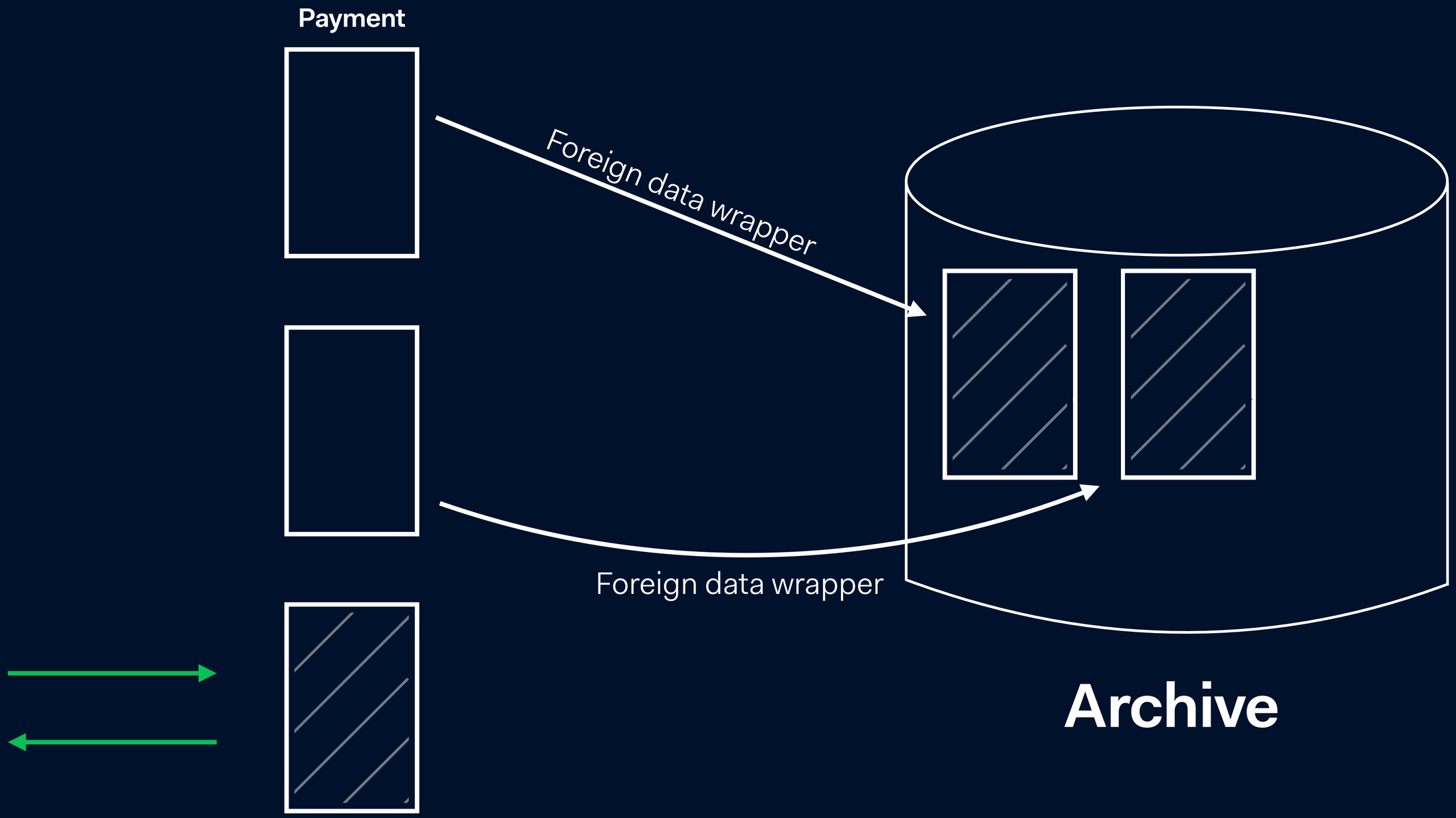
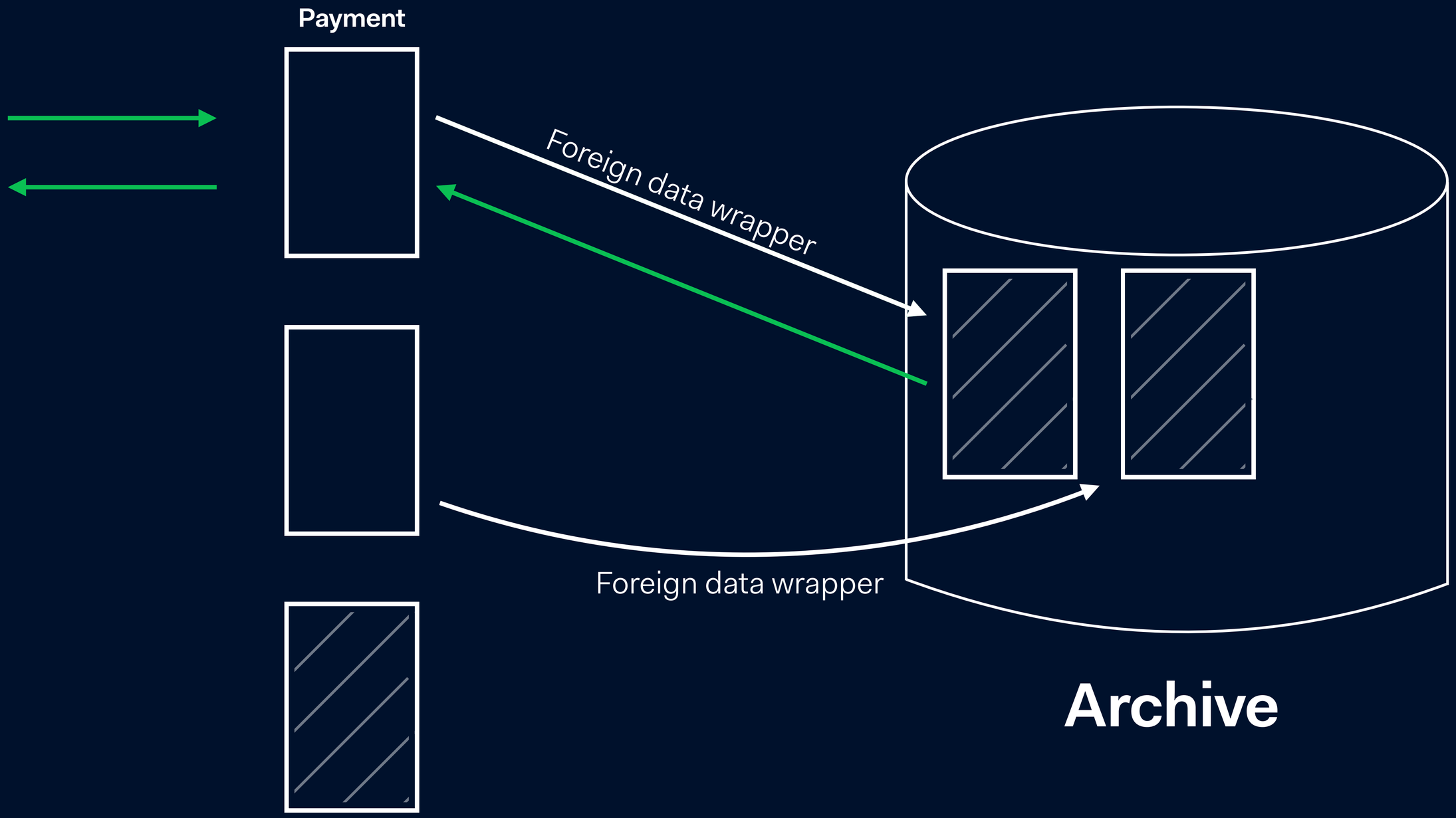

Payment
Foreign data wrapper
Foreign data wrapper
Archive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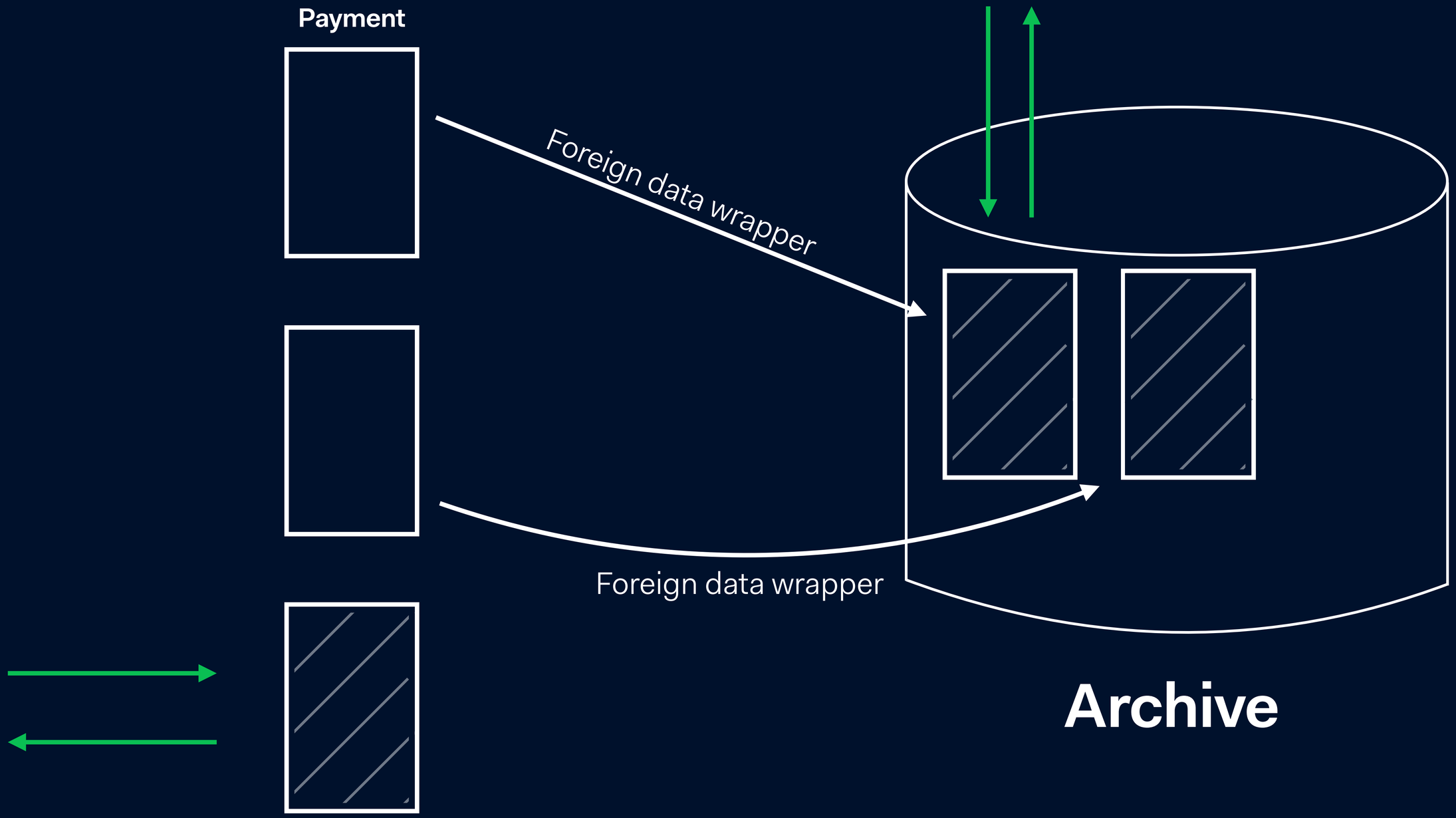
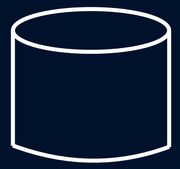

Payment
Foreign data wrapper
Foreign data wrapper
Archive

Summary



Range based partitioning

Find your leading figure

Archive or delete

Feedback

I would love to work on this