Offline Locking

- Not using the database ...
Optimistic Offline Lock

Put a customer version stamp in the database

Note: not serializable!
The SQL ...

```
UPDATE Customer
  SET ..., Version = v+1, ...
  WHERE Id = ... AND Version = v
```

Then check that exactly one row was updated!
Pessimistic Offline Lock

Session A

Database

Session B

Get Cust X

Edit Cust X

Fwd to View

Update Cust X

Okay!

Get Cust X

ERROR
Cust X is locked!

Put a customer lock state in the database

SELECT FOR UPDATE?
Which to Use?

• Optimistic
  • not much contention
  • easy to rollback
  • short transactions

• Pessimistic
  • contention likely
  • long transactions
  • rollback may be impossible