Add Constraints for Performance

Jeff Davis,
Truviso, Inc.
Constraints Are Slow!

• CHECK (col1 > 7)
  • Checking is slower than not checking
• UNIQUE (col1)
  • May have to block waiting for other transactions to complete
• Foreign Keys
  • Have to do lookups in other tables
But Only When Writing

- Constraints only penalize writes
  - Usually an incremental slowdown, adding overhead to INSERTs and UPDATEs
    - Except in cases of high contention
- Constraints don't penalize reads
- So can they help reads?
Yes!

- CHECK (col1 > 7)
- SELECT * FROM foo WHERE col1 = 3;
- No need to read table at all!
  - Obviously nothing will match, because of CHECK constraint
- Requires constraint_exclusion = on
But Could Be Better

- CREATE TABLE t(i INT UNIQUE);
- SELECT DISTINCT * FROM t;
- Still performs a sort or index scan
  - Not necessary at all