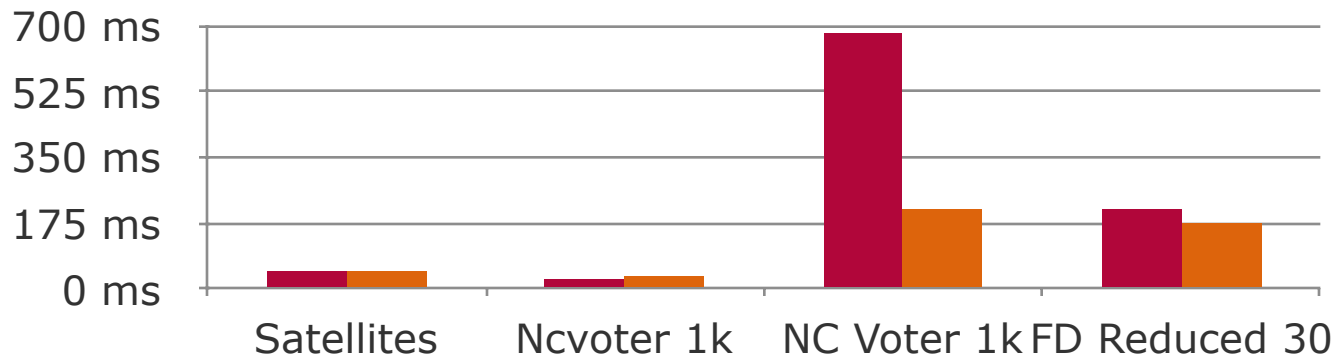# Minimal FDs - a TANE implementation

- Iterating through lattice
  - reduce number of tuples to be checked with pruning
  - efficiently generate next lattice level with prefix-blocks

- FD checking
  - use Position Lists Indexes (PLI)
  - stripp PLIs to reduce storage and runtime of intersection

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Minimal FDs - a TANE implementation

Legend:
- Super FD
- Hy FD

Chart: bar chart comparing Super FD and Hy FD across datasets (Satellites, Ncvoter 1k, NC Voter 1k, FD Reduced 30), y-axis in ms (0 ms, 175 ms, 350 ms, 525 ms, 700 ms).

```
1    for each X ∈ Lₗ do
2        if C⁺(X) = ∅ do
3            delete X from Lₗ
4        if X is a (super)key do
5            for each A ∈ C⁺(X) \ X do
6                if A ∈ ∩_{B∈X} C⁺(X ∪ {A} \ {B}) then
7                    output X → A
8            delete X from Lₗ
```

$$X \cup \{A\} \setminus \{B\}$$

is not always in C+

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