

Upcoming PostgreSQL Features

BRUCE MOMJIAN,
SOFTWARE RESEARCH ASSOCIATES

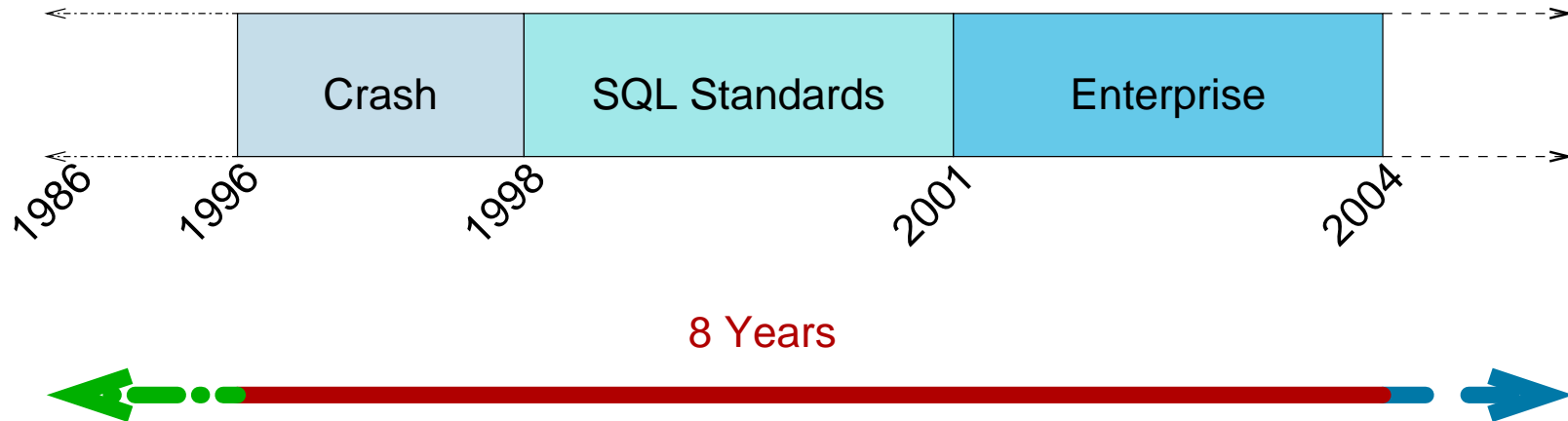
September, 2004



Abstract

This outlines the upcoming features of PostgreSQL 8.0.

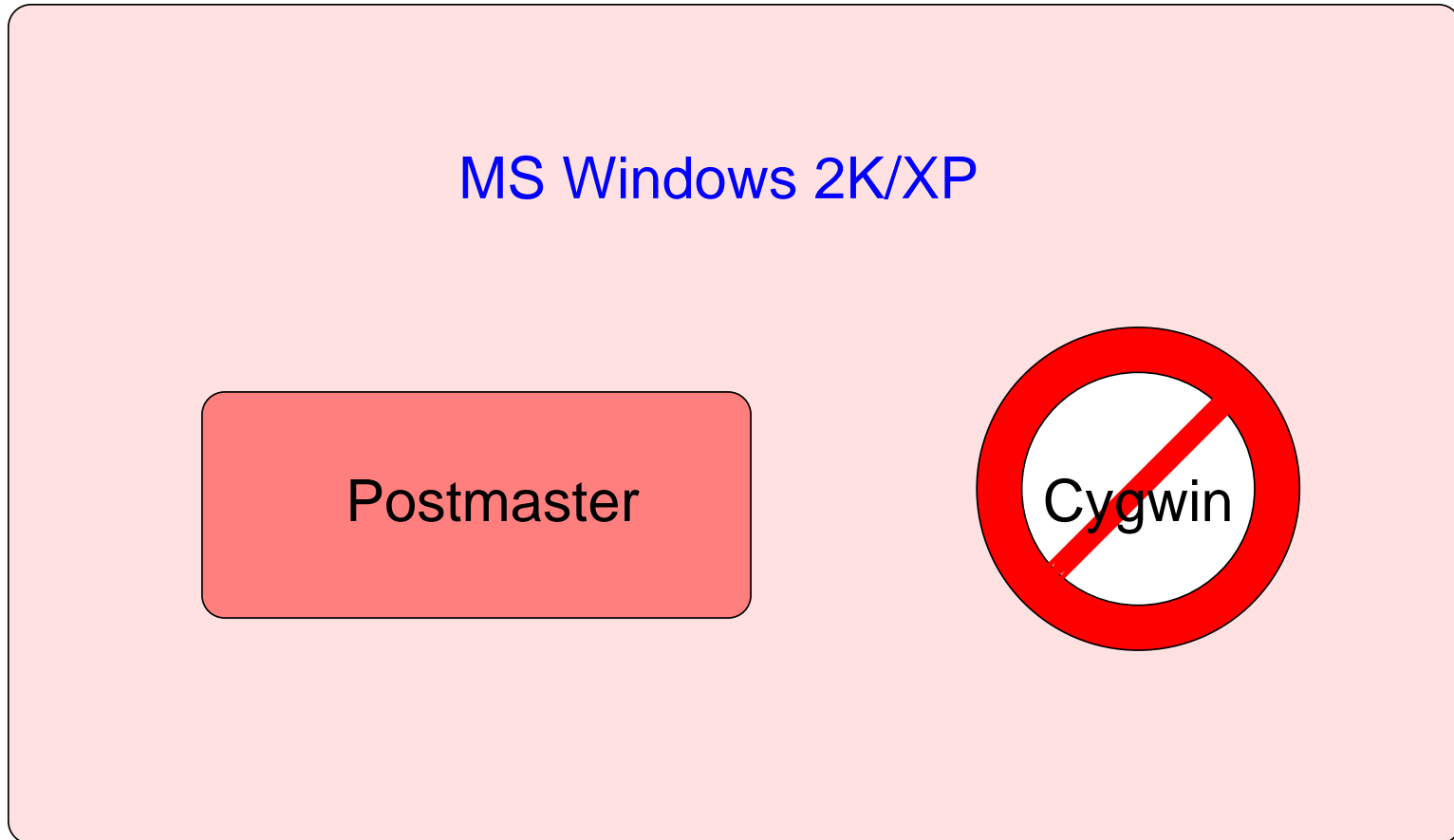
PostgreSQL Evolution



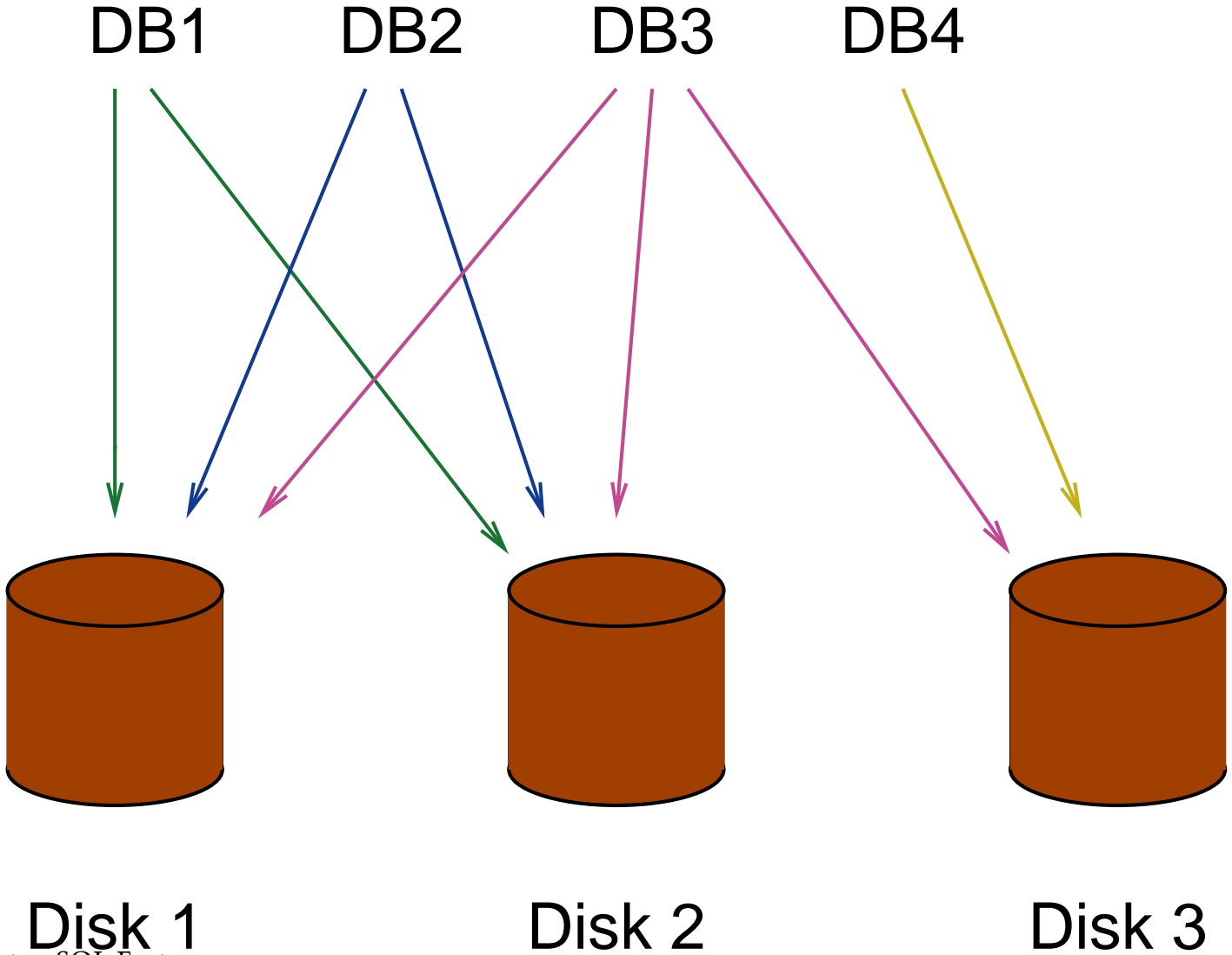
Enterprise features include:

- Improved Performance
- Simplified Maintenance and Administration
- Efficient 24/7 Operation

MS Windows port: Windows NT4+



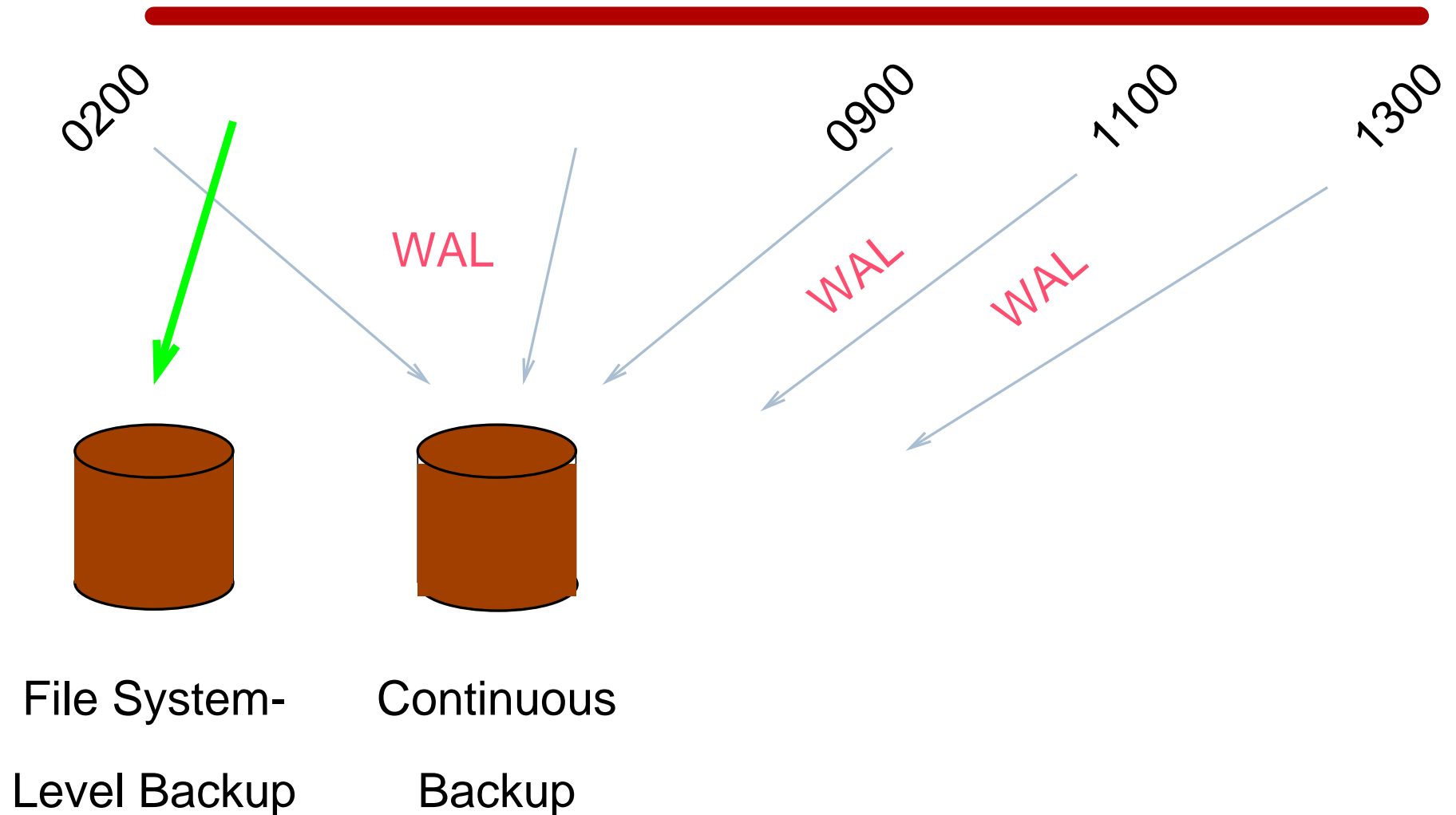
Tablespaces



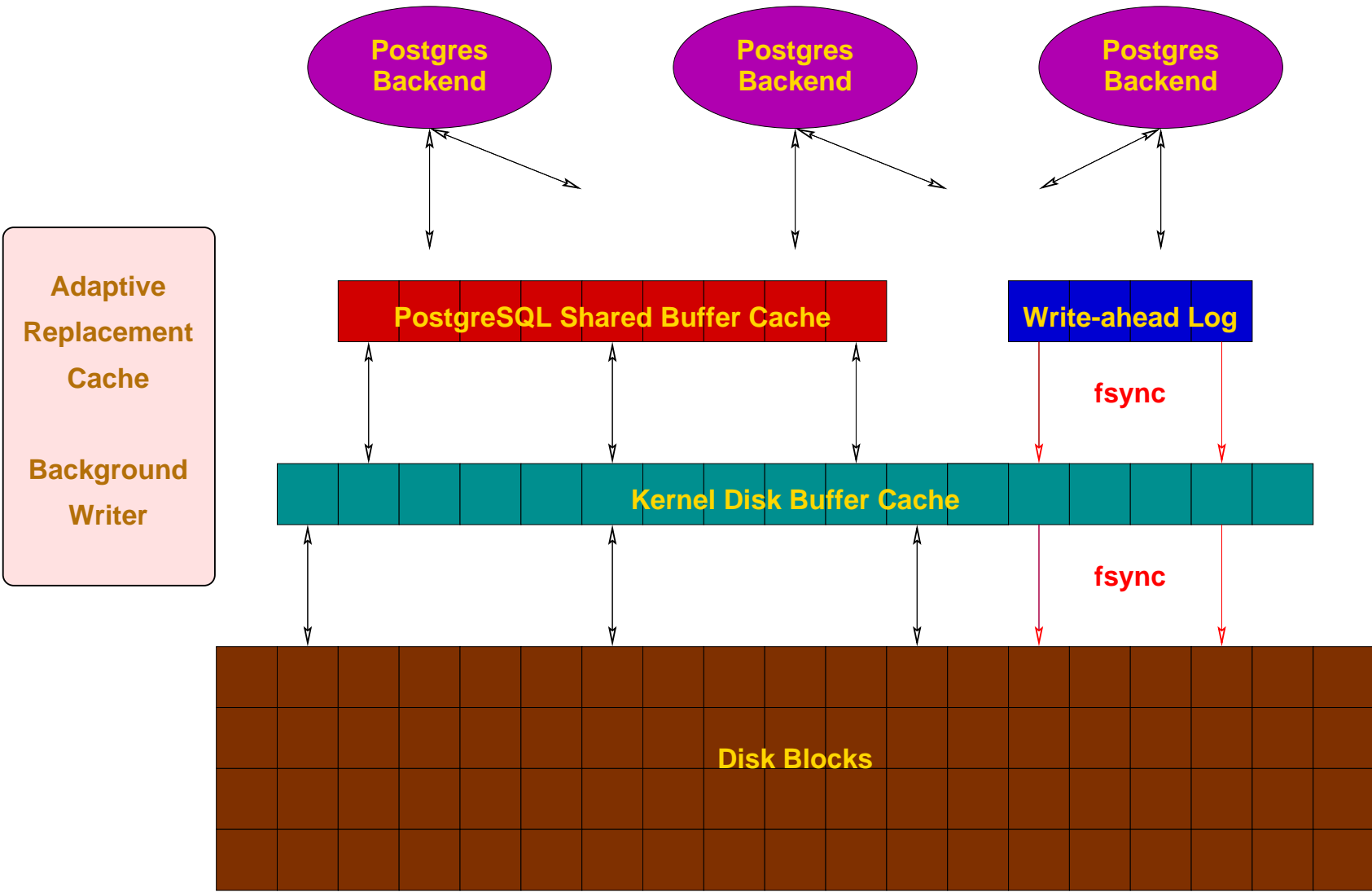
Savepoints

```
test=> BEGIN WORK;  
BEGIN  
test=> SAVEPOINT one;  
BEGIN  
test=> INSERT INTO test VALUES (55);  
ERROR: duplicate key violates unique constraint "i"  
test=> ROLLBACK TO SAVEPOINT one;  
ROLLBACK  
test=> UPDATE test SET total = total + 1;  
UPDATE 1  
test=> COMMIT WORK;  
COMMIT
```

Point-in-time Recovery: Continuous Backup



Improve Shared Buffer Management, Writer, Checkpoint, Vacuum



Change Column Types

```
ALTER [ COLUMN ] column TYPE type [ USING expression ]  
ALTER TABLE distributors      ALTER COLUMN address TYPE varchar(80);
```


New Perl Server-Side Language

- Persistent, shared storage area
- Triggers
- Returning records
- Arrays of records
- SPI calls

COPY Handles Comma-Separated-Value Files

```
COPY tablename [ ( column [, ...] ) ]  
FROM { 'filename' | STDIN }  
[ [ WITH ]  
    [ BINARY ]  
    [ OIDS ]  
    [ DELIMITER [ AS ] 'delimiter' ]  
    [ NULL [ AS ] 'null string' ]  
    [ CSV [ QUOTE [ AS ] 'quote' ]  
        [ ESCAPE [ AS ] 'escape' ]  
        [ FORCE NOT NULL column [, ...] ]
```

```
COPY tablename [ ( column [, ...] ) ]  
TO { 'filename' | STDOUT }  
[ [ WITH ]  
    [ BINARY ]  
    [ OIDS ]  
    [ DELIMITER [ AS ] 'delimiter' ]
```

```
[ NULL [ AS ] 'null string' ]  
[ CSV [ QUOTE [ AS ] 'quote' ]  
      [ ESCAPE [ AS ] 'escape' ]
```

```
test=> COPY pg_class TO STDOUT WITH CSV;
```

```
views,17055,17217,1,0,17216,0,0,0,0,0,f,f,v,7,0,0,0,0,0,f,f,t,f,"{postgres=ar  
data_type_privi-
```

```
leges,17055,17220,1,0,17219,0,0,0,0,0,f,f,v,5,0,0,0,0,0,f,f,t,f,"{postgres=ar
```

Server Administration

- Log disconnections
- Line line prefix: user name, database name, remote IP address, and session start time
- New log output options
- Statement logging control: modification, DDL
- Configuration files can be relocated
- Allow upper()/lower() on multibyte encodings
- Improved index comparison with non-matching types

Affiliated Projects

- Slony master/slave replication system
- PL/J and PL/Java server-side programming languages
- Improved JDBC standards compliance

Questions?

