Separation of Duties

User, Schema, and Service Account Definitions and How PostgreSQL Solves the Problem

Richard Stephan
Senior Database Administrator
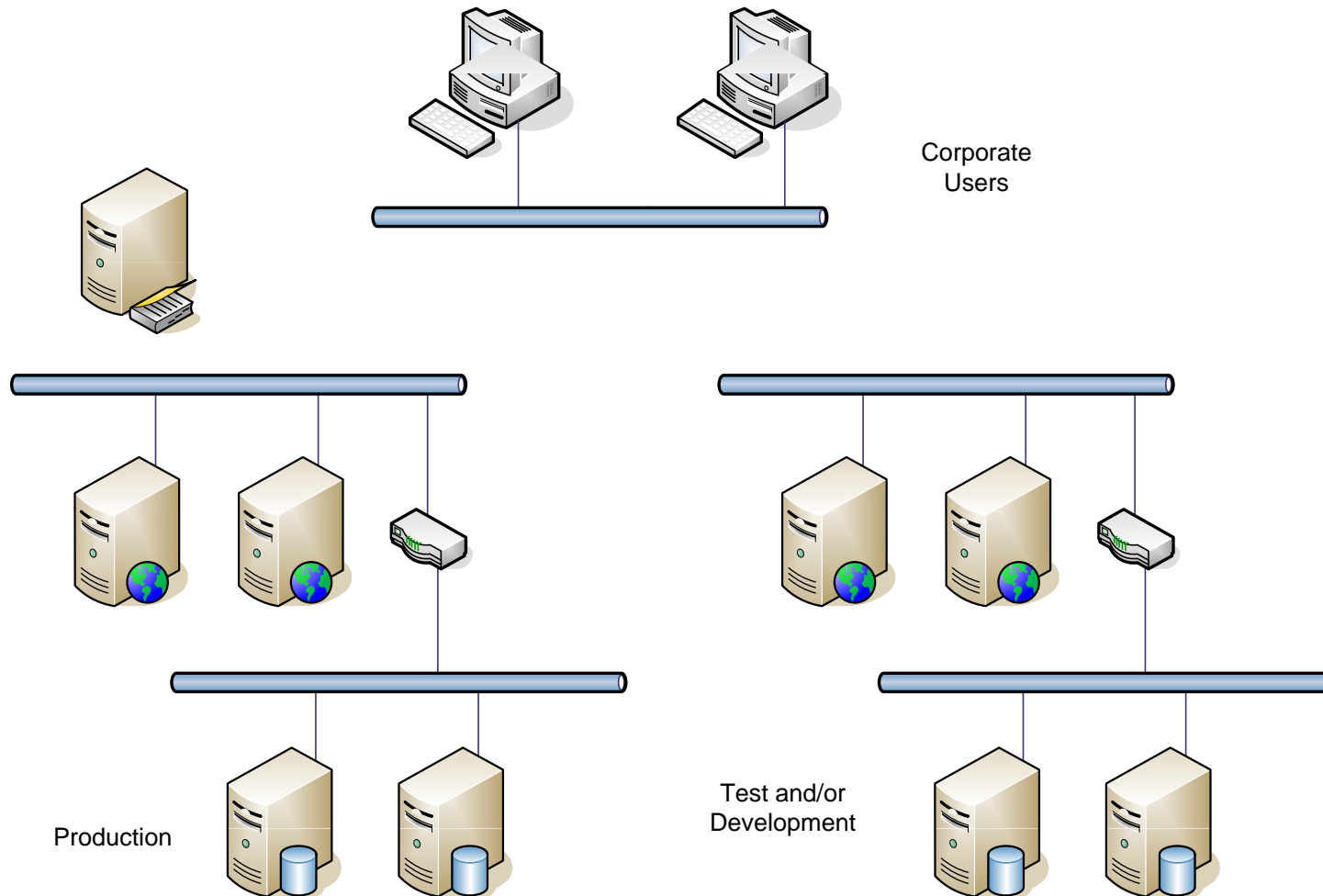**New York Independent System Operator**

Database Accounts

- **System – Application Components**
  - *Schema Owner*
  - *Application Accounts*
  - *Database owner (i.e., postgres)*
- **Users**
  - *Database Administrators*
  - *Configuration Management*
  - *Developers*
  - *Quality Assurance*
  - *Power Users*

Account Management

- ## Account Profiles
  - *Password complexity*
  - *Account expiration*
  - *Failed attempt lock outs*

- ## Database Privileges
  - *DBA, CM, QA, Dev, App*

- ## Auditing Activity

- ## Limiting or Eliminating Shared Accounts

Corporate Network Topology

Corporate
Users

Production

Test and/or
Development

Application Example

- **DBA User – pstewart**

- **CM User – lburton**

- **QA User – msirtis**

- **Dev User – wwheaton**

- **Power User - jfrakes**

- **Schema – ncc1701d**

- **Object Owner Role – ncc1701d**

- **Application Pooled User - ltcdrdata**

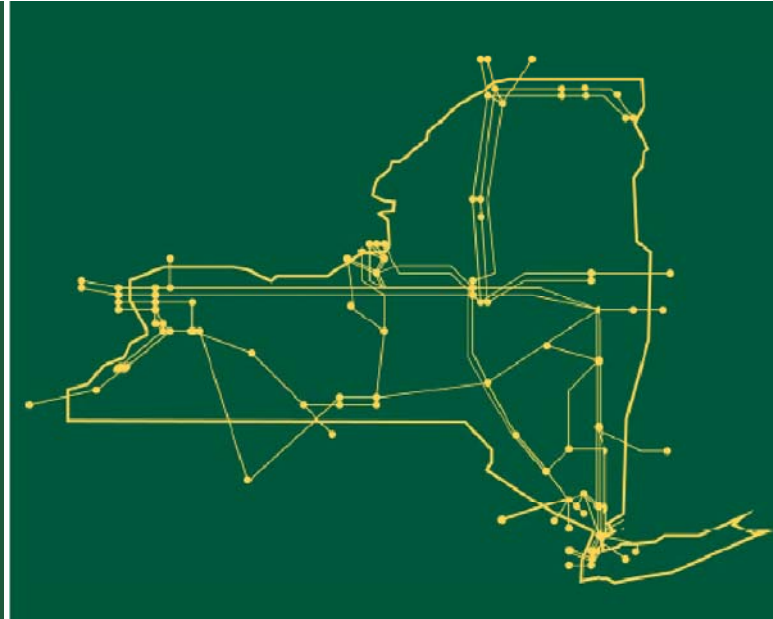# pg_hba.conf

```
# TYPE      DATABASE      USER        CIDR-ADDRESS      METHOD
local       all           postgres                      trust
hostssl     enterprod     all         10.50.0.0/16      ldap
    "ldap://corp-ad.company.com/OU=Standard Users,DC=corp-
    ad,DC=company,DC=com;CN=;,OU=Standard Users,DC=corp-
    ad,DC=company,DC=com"
hostssl     enterprod     all         10.10.1.0/24      md5
hostssl     enterprod     all         10.20.1.0/24      md5
```

pg_hba.conf

```
# TYPE      DATABASE      USER          CIDR-ADDRESS      METHOD
local       all           postgres                        trust
hostssl     enterprod     all           10.50.0.0/16      ldap
   "ldap://corp-ad.company.com/OU=Standard Users,DC=corp-
   ad,DC=company,DC=com;CN=;,OU=Standard Users,DC=corp-
   ad,DC=company,DC=com"
hostssl     enterprod     ltcdrdata 10.10.1.0/24      md5
hostssl     enterprod     ltcdrdata 10.20.1.0/24      md5
```

The New York Independent System Operator (NYISO) is a not-for-profit corporation that began operations in 1999. The NYISO operates New York's bulk electricity grid, administers the state's wholesale electricity markets, and conducts reliability and resource planning for the state's bulk electricity system.

www.nyiso.com