PostgreSQL Heritage

- **Independent & Thriving Development Community**
  - 10 committers and ~200 reviewers
  - 1,500 contributors and 10,000+ members
  - 2,000,000+ downloads

- **20 years of enterprise-class development**
  - Point in Time Recovery
  - Non-blocking Read/Writes
  - Row-level locking
  - Save-points
  - Referential Integrity
  - Object Relational Extensibility
  - Security Integration
  - Partitioning
  - Server-Side Languages
  - Linux and Windows
  - UNICODE
  - Triggers & Rules
  - Advanced Optimizer
PostgreSQL Heritage

- Deployed by some of the world’s largest commercial and government organisations...

  “...With PostgreSQL we have been successful in growing the databases as the company has grown, both in number of users and in the complexity of services we offer...”

The largest professional organization of Chemists in the world, with over 165,000 members, and a website that receives more than 12 million visits every day. Their Journal Archive stores 125 years of full publications (2.5 million pages, more than 1 terabyte of data) using PostgreSQL.

Cisco uses PostgreSQL as the embedded database in all its “Case Sensitive Routing” (CSR) products to store carrier details, rules, contacts, routes – to perform call routing.

“...Fujitsu is proud of its sponsorship of contributions to PostgreSQL and of its work with The PostgreSQL community. We are committed to helping make PostgreSQL the leading Database Management System...”
  Takayuki Nakazawa – Director Database in Software Group.

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EnterpriseDB™
Product Model

Blades - Enabling partnerships through integration

Postgres Plus Advanced Server - the obvious choice for Oracle-based IT organizations developing an open source database strategy

Postgres Plus - The world’s leading commercial Postgres distribution

Postgres - the world’s best OSDB for serious applications
Postgres Plus Advanced Server offers additional features including Oracle compatibility.

Postgres Plus is fully open source and contains the PostgreSQL project along with additional components.

PostgreSQL is the project upon which Postgres Plus is based.
# Performance & Scalability

- Installation Tuning
- GridSQL Parallel Query
- Dynatune™ Workload Profiling
- DBA Monitoring
- Integrated Connection Management
- Distributed Memory Caching
- Bulk Collect / Bulk Binding
- EDB*Loader
Postgres Plus 8.x

• Replication and High Availability

  1. Data Replication
     (near-time trigger) + Slony1

• Storage Replication
  (file system)

• Data Log Replication
  (transfer + load for stand-by)

8. Clustered Shared Hardware
  (Active > Passive – Async)
Spatial

• PostGIS
  – Built with the GEOS libraries
Integrated User Tools

- pgAdminIII
- MySQL Migrator
- Procedural Debugger
Accelerators for Developers & DBAs

Postgres Studio

- Visual database designer
- Includes integrated debugger
- Fast, intuitive tools for defining, debugging and deploying Postgres Plus databases

Framework Plug-ins

- Free downloadable tools
- Java/SEAM, Ruby on Rails …

- Automatically build popular framework models from existing Postgres databases

Application QuickStarts

- Web 2.0 Application Tutorials
- Drupal, MediaWiki, phpBB …

- Help developers quickly integrate Postgres Plus with popular Web 2.0 applications
Enterprise Build

• Security Modules
  – SSL, Kerberos

• Procedural Languages
  – PL/pgSQL, PL/Perl, PL/TCL, PL/Python

• Contrib Modules
  – pgcrypto, xml2, tablefunc, pg_buffercache
  – fuzzystrmatch, dblink, pg_standby, etc
New Value Added Services

Postgres Plus Installers

Helps users tune their database configurations based on their platforms and infrastructures

Notifies users when new database updates are available for installation

Value Added Services are free for all Postgres Plus users – open source and commercial
Postgres Plus …Security

• Core Components…Security

  • Object Level Privileges assigned to “Roles & User”.
  
  • Kerberos + SSL communication.
  
  • Data Level Encryption (AES, 3DES, etc)
  
  • Ability to utilise 3rd party Key Stores in a full PKI infrastructure
  
  • Foundation for full compliance with the strictest of security standards (PCI Data Security Standard).

“By default PostgreSQL is probably the most security-aware database available”
David Litchfield - The Database Hackers Handbook
Business Intelligence & Data Warehousing

- **GRIDSQL Features**…
  - **Parallel Load**
    - Dataset distributed across participating nodes.
    - Parallel loader utilises Metadata repository to perform fast load.
  - **Parallel Query**
    - Utilises “cost-based” parallel query optimiser.
    - Queries intelligently distributed to all databases in the GRID.
    - Results gathered and collated and result set returned.
  - **Table Level data distribution**
    - Replication & configuration of FACT tables for customising data distribution
  - **Centralised Grid Management**
    - Single GUI to monitor GRID performance and dynamics

*GRIDSQL*
GridSQL Open Source Project

- Fast, scalable architecture for data warehousing applications
- Single database image
- Data partitioning
- Parallel queries
- Shared-nothing distributed architecture
- Transparent to applications
- Open source friendly licensing

Download: http://sourceforge.net/projects/gridsql/
Community & Support: http://www.enterprisedb.com/community/projects/gridscl
Postgres Plus Advanced Server 8.x

• **ORACLE™ SQL compatibility**
  - Ability to recognise and execute database queries expressed in Oracle’s SQL language.
  - Support for same data types, functions and variables as Oracle™.
    - **Data type** - all Std SQL + Oracle’s extended mapped to native & PostgreSQL types.
    - **Functions** - all SQL callable functions & variables popular with DBA’s & Developers.
  - Resolves incompatibilities between Oracle’s and PostgreSQL’s treatment of…
    - **Column aliasing** - removed need for the “AS” keyword in select-list.
    - **Public synonyms** - supports public syns as alternative names for tables, views & sequences.
    - **Sequences** - enhanced to support both Oracle™ and PostgreSQL Currval & Nextval constructs.

```
Create table emp (  
  empno number (10) no null default empno_seq.NEXTVAL,  
  ename varchar2 (32) not null primary key (empno));
```

**Added Benefit...sequence**

Use in Table Definition
no before update trigger needed

Create table emp (  
  empno number (10) no null  
  default empno_seq.NEXTVAL,  
  ename varchar2 (32) not null primary key (empno));
Custom Packages
- supports Oracle-style custom packages.
  - SPEC - public interface contains public procedures, functions & variables.
  - BODY- contains logic, functions declared in SPEC + private logic, functions etc.

Procedures
- Oracle™ PL/SQL stored procedures work exactly the same in EDB-SPL.
  - When called my receive input values from the caller and return output values.
  - Stored in database by executing a script containing procedure definition.

Functions
- Oracle™ PL/SQL functions work exactly the same in EDB-SPL.
  - evoked as expressions, then evaluated and returns a value.
  - May take values from calling procedure and provide output values
Postgres Plus Advanced Server 8.x

• ORACLE™ Migration Methodology

“Switching from Oracle™”
**Postgres Plus Advanced Server 8.x**

- **EDB Core Components…Replication solution** Oracle
  - **EDB Replication Server…**
    Is an enterprise-class cross-platform GUI based Replication Console - built on Slony-1.
  - Replicates Oracle™ and EnterpriseDB data across business geographies in near real-time.
  - Publish and Subscribe Model - Single-Master > Multiple-Slaves Architecture.
  - Asynchronous (fault tolerant) - Trigger based < 10% overhead.
  - Transaction or “Snap-Shot” only replication - with node filters.
  - Across heterogeneous operating systems (Linux, Solaris, HP-UX and IBM-AIX, Windows).

“Offload and co-exist with Oracle™”
Thank you

Questions?