Evolving Transit Technology – Facilitating Seamless Data Integration through GIS Server Implementation

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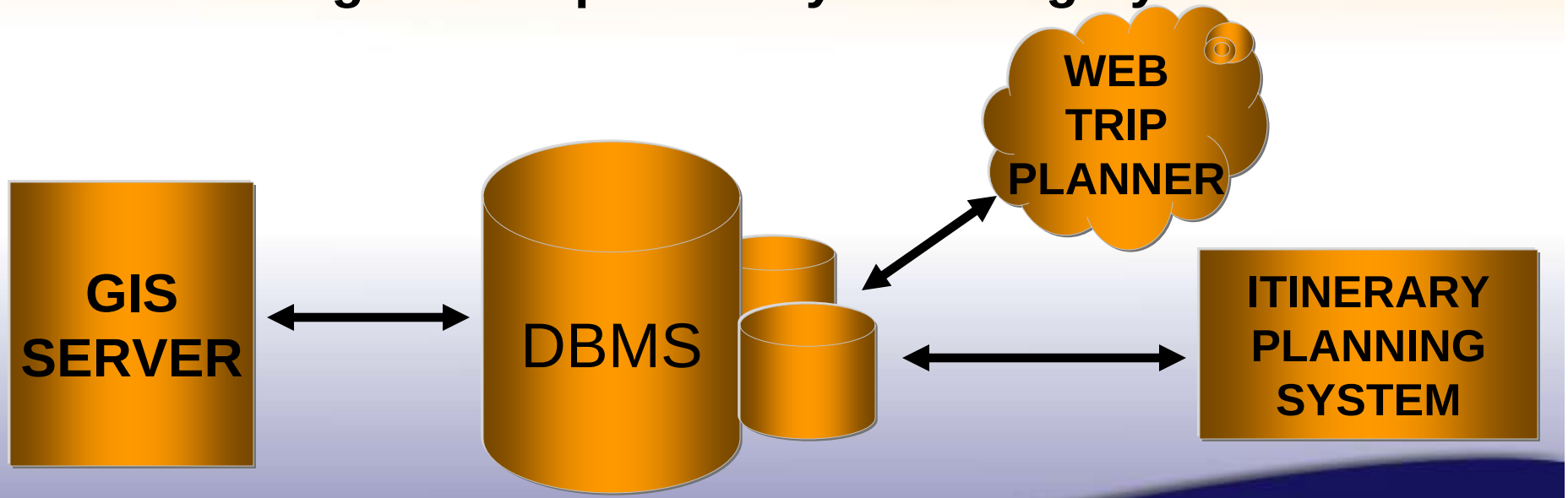
MARTA OVERVIEW

MARTA Provides The Community With Bus, Rail And Paratransit Services For The Atlanta Metro Area

- **9th Largest Transit System In North America**
- **4,600+ Employees;450,000 Daily Passengers**
- **556 Peak Buses On 129 Routes & 200 Paratransit Vans**
- **38 Rail Stations & 338 Rail Cars**
- **Provides Over 90% Of Transit Service In The Region**
- **First 100% Smart Card System In North America**

OBJECTIVE

Seamless Data Integration To
Facilitate Regional Trip Itinerary Planning System



SERVER POTENTIAL

- Server GIS - facilitating data transition across the organization
- Improved deployment of Geospatial analytical tools
- Improved data management
- Access to non-GIS users

TECHNOLOGICAL INNOVATIONS IN TRANSIT OPERATIONS

- Route Planning and Analysis
- Automatic Vehicle Location Systems
- Paratransit Analysis and Routing
- Bus Stop Management and Facility Inventory
- Rail System Facility Management
- Optimal Routing Through Demographic Analysis
- Transportation Modeling and Data Structures
- Ridership Analysis

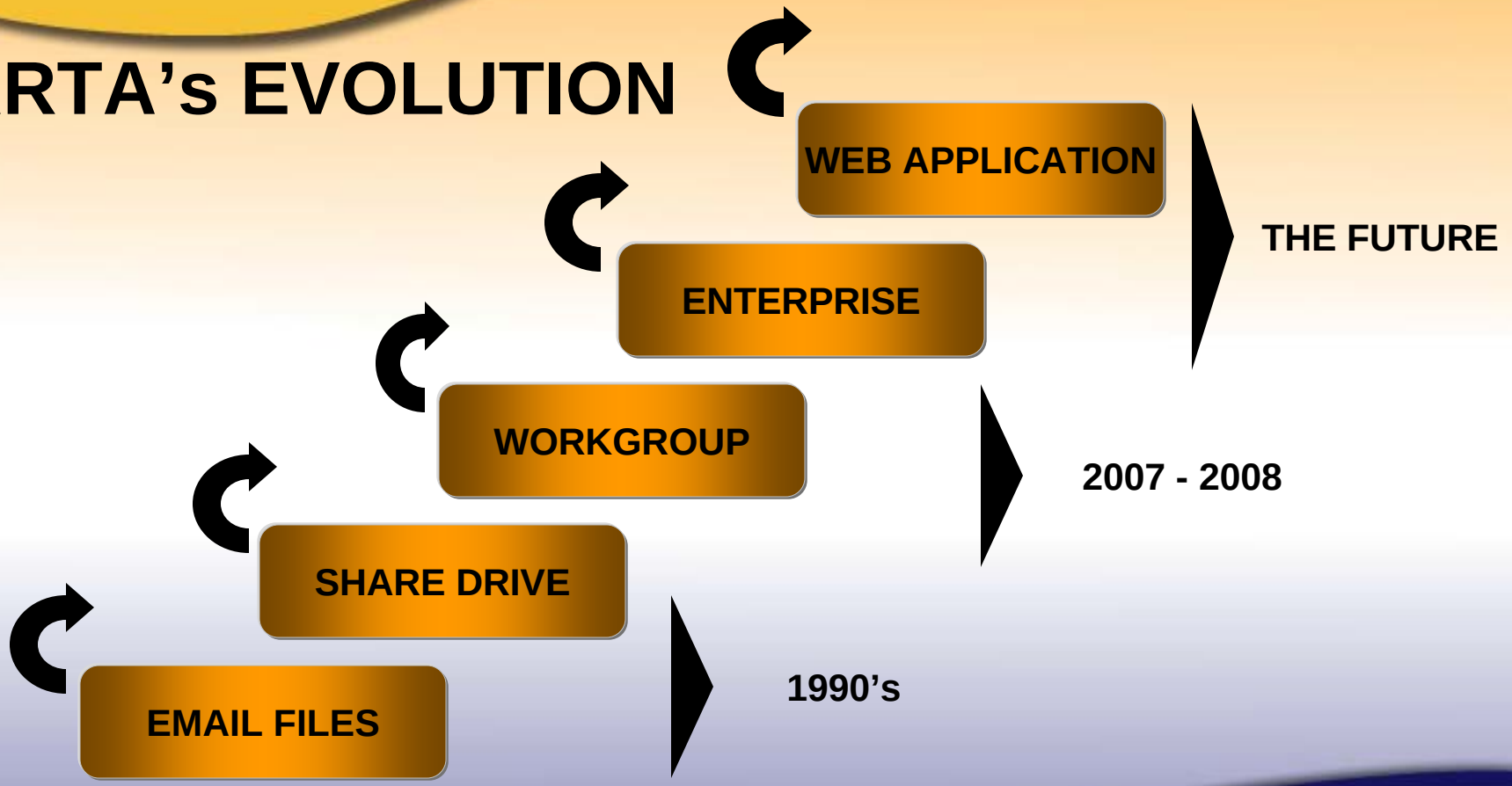
THE PAST - HISTORIC

- Data Access – Limited Departmental involvement
- Disparate Datasets
- Shared Drives via Internal Network
- Emails
- Hard Drives - Imagery Data
- Electronic Media
- Poor Data Quality
- Data Loss

THE FUTURE - EVOLUTION

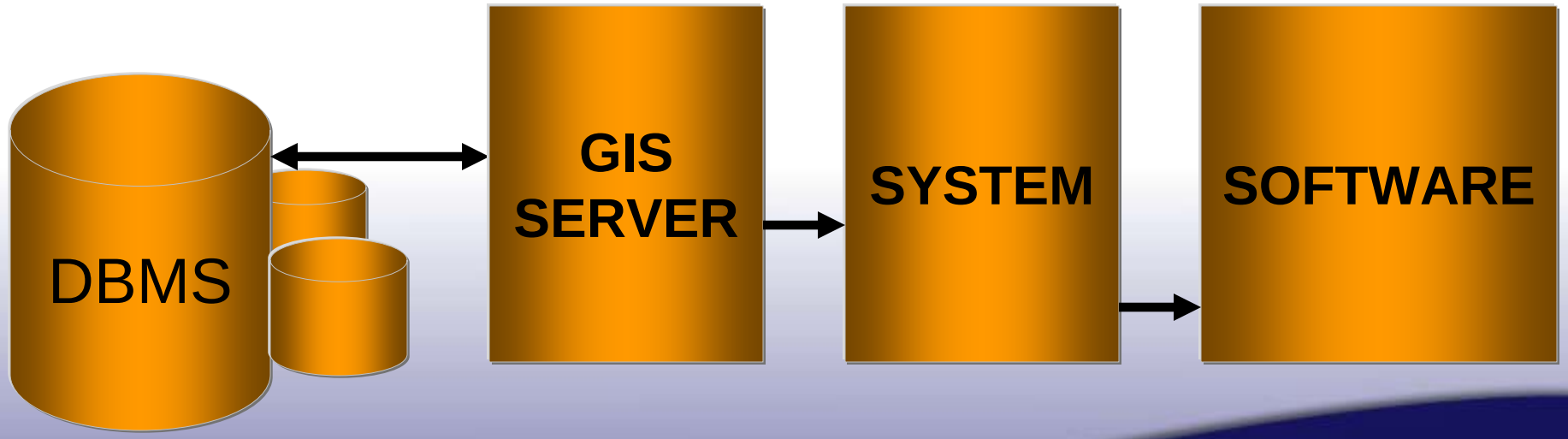
- Data Access/Integration – Seamless
- GIS Functionality Direct Access via Internal/External Network
- Efficient Data Management
- Seamless Data Collection And Reconciliation
- Comprehensive Analysis
- Custom Web Based Applications
- Mobile Systems Support
- Increased Productivity

MARTA's EVOLUTION



IMPLEMENTATION STRATEGY

Design and Implement an Integrated GIS System Architecture



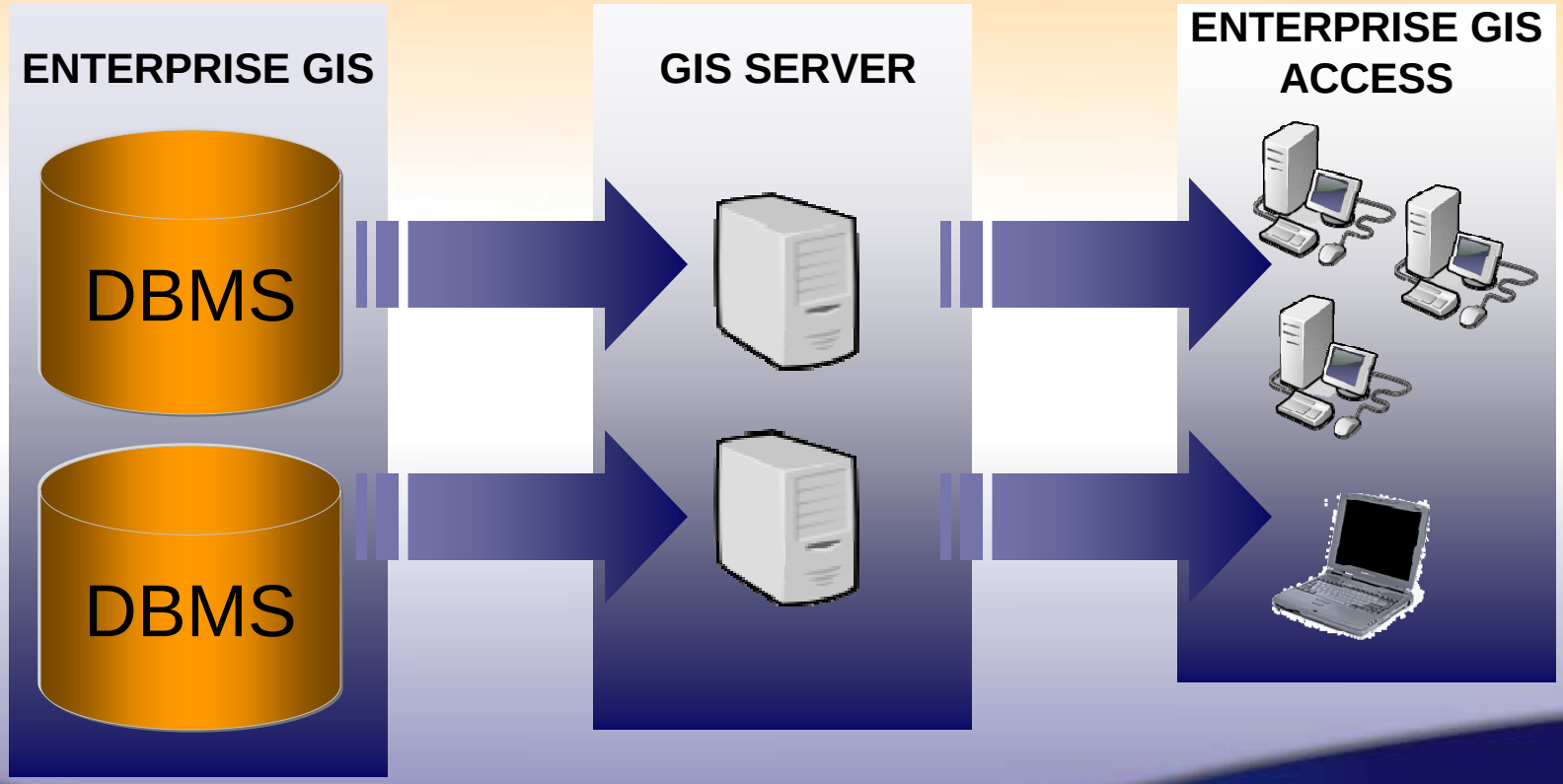
CENTRALIZED SYSTEM

- Systematic Process
- System Administration
- Functionality
- Data Sharing, Integration and Interoperability
- License Consolidation on Central Server
- Data Management Structure
- Security
- Geoprocessing Model Sharing
- Network Load

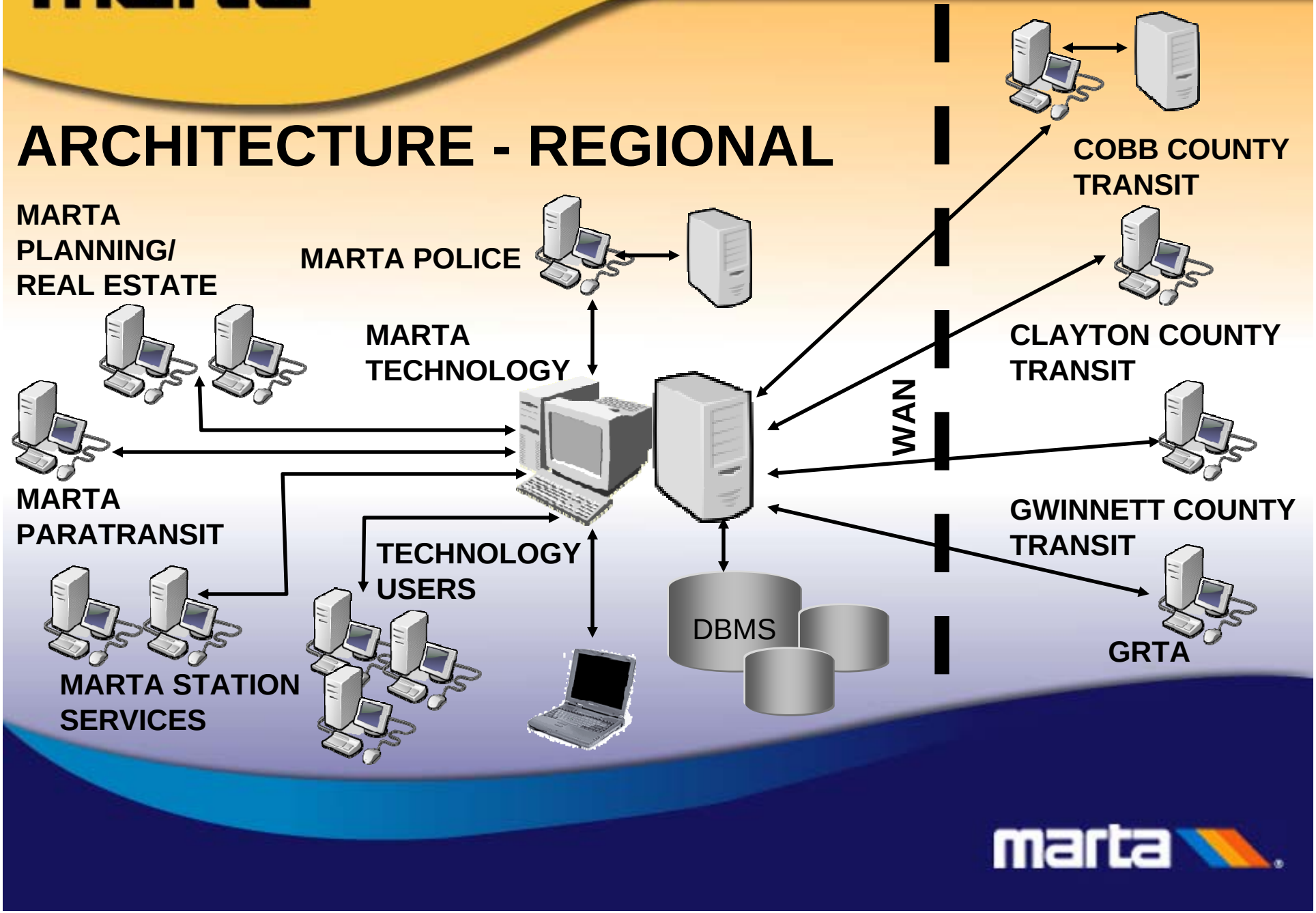
ARCHITECTURE

- Service Oriented Architecture
- System Accessibility
- Unified Data Structure
- Scalable Architecture
- Web-based Services

CONCEPTUAL ARCHITECTURE - LOCAL



ARCHITECTURE - REGIONAL



FUTURE DEVELOPMENTS

- Unified Framework Architecture
- Accommodating Data growth
- Integration of Disparate Systems
- Facilitating Access
- Data interoperability