# Enterprise  ERP / MRP Solution

Multi-Tier Solution

# Sample Solution

**Operation Branches**

Sabah

JB

Penang

**HQ**

KL

**Data Center**

**Small Branches**

Klang

Sunway

# Multi-Tier Application Solution

**Users**

**Tier 1**

**Database Server**

**Tier 2**

**Consolidation Server**

**Tier 3**

**Application Server**

3 Software Tiers can run on the same hardware depending on loading
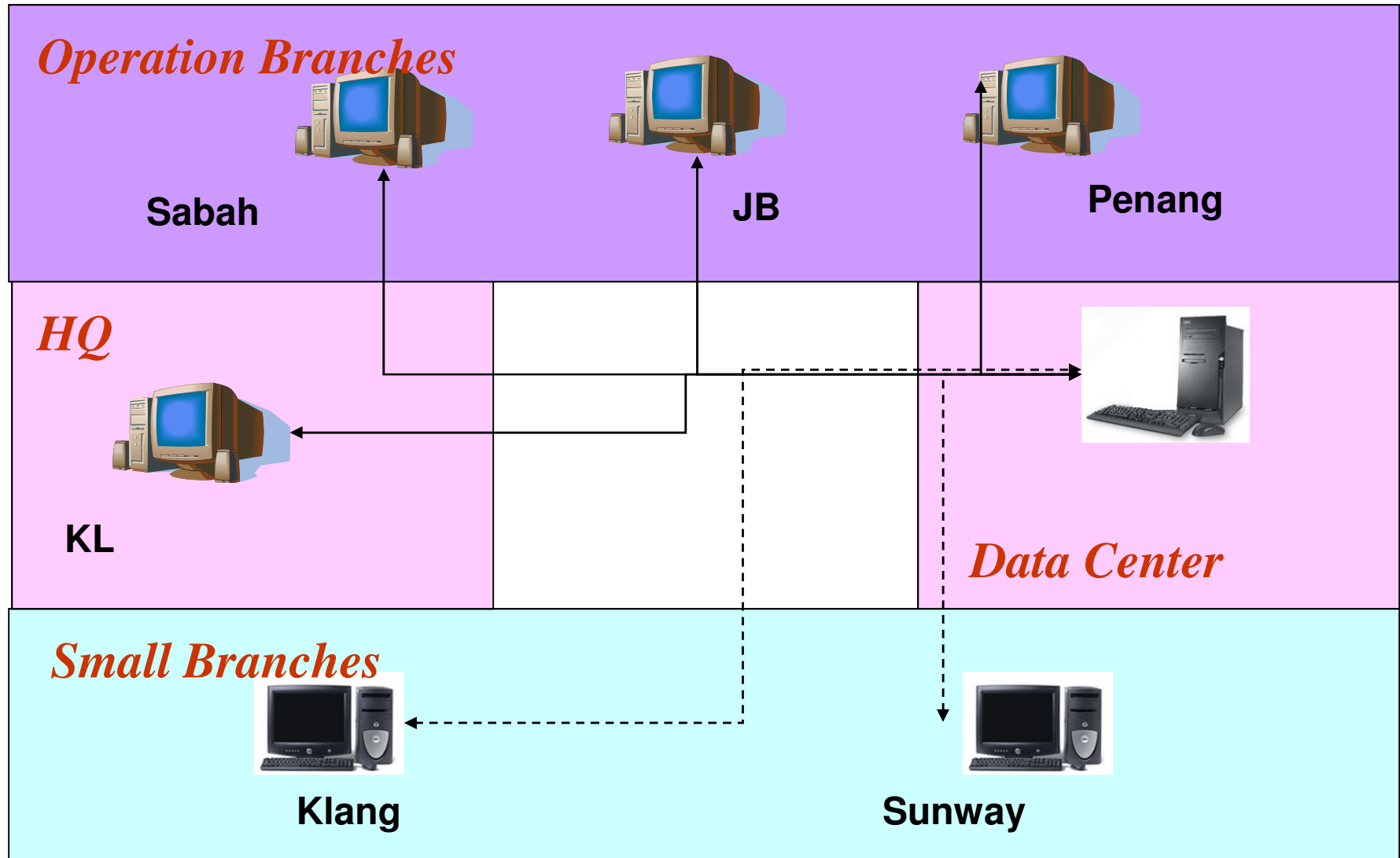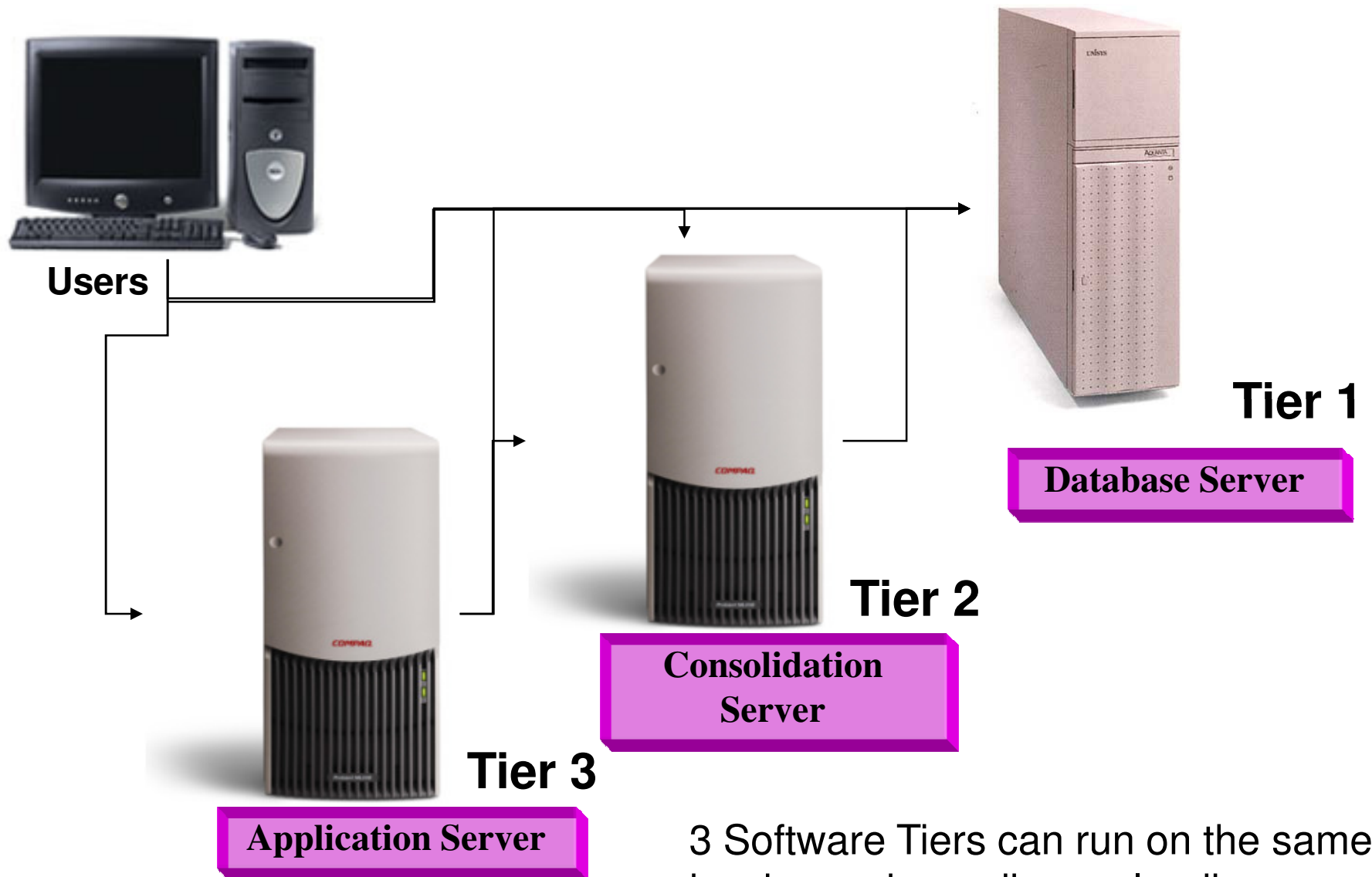
# Multi Tier Application Solutions

## Centralized Server

- Deployment Scenarios
  - Single Site with Full Operation
  - Multiple Small Offices at different remote sites
  - Mobile workers
  - Remote sites require limited and ad-hoc access
- Options
  - VPN-Tcp
  - VPN-File
  - Terminal Server

## Multi Server, Client-Server

- Deployment Scenarios
  - Multiple sites with Full Operation
  - Multiple sites with Partial Operation unlimited access
  - Remote Sites that needs uninterrupted operation
  - Remote Site running at normal speed
- Options
  - Batch Processing
  - AutoSycn

# Solutions Offered

| Options | Radix | Competitor |
|---|---|---|
| Remote Control | iHelp | VNC/Teamviewer |
| VPN TCP | Yes | Some |
| VPN File | Yes | Yes |
| Terminal Server | Yes | Yes |
| Batch Processing | Full Import Export | Partial |
| AutoSync | Full | Partial |

# Fixed IP Requirement

| Options | Radix |
|---|---|
| VPN TCP | Optional |
| VPN File | Optional |
| Terminal Server | Optional |
| Batch Processing | No |
| AutoSync | All Branches |

# Client / Server Scalability

| Version | SBE | Premier | Corporate | Ent. Basic | Ent Adv. |
|---|---|---|---|---|---|
| Hardware Server | NAS | NAS | Win 2003 | Win 2003 | Win 2003 |
| Software Server | * | Basic | Firebird Server | MS SQL | Firebird / MS SQL |
| Recommended Users | 1 to 5 | 1 to 5 | 1 to 30 | 1 to 50 | 1 to 50 |
| Large Database | | | ✓ | | ✓ |
| Consolidation | Batch | Batch | Batch | Web Sycn | Web Sycn |
| Application Servers | | | ✓ | ✓ | ✓ |
| SQL 92 Compliant | | | ✓ | ✓ | ✓ |
| Server Management | | | ✓ | ✓ | ✓ |

# Client / Server Scalability (by Product View)
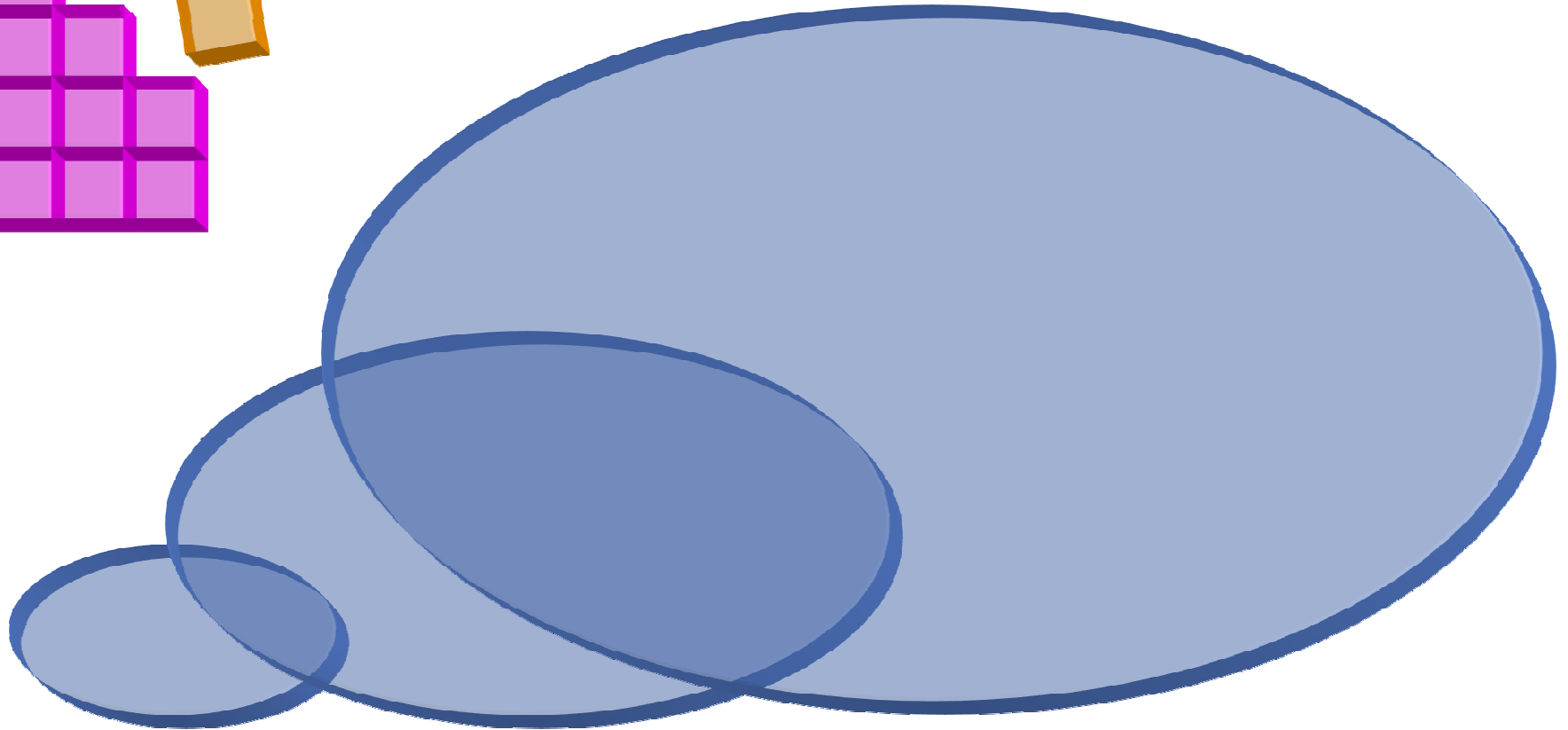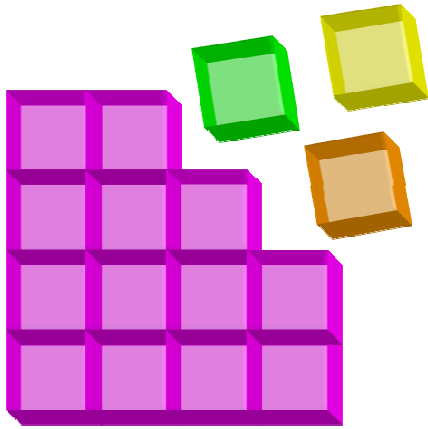


*Simple A* → *AccSys* → *PelionTech ERP*

# Software Modularity

| | Small Business | AccSys | Radix ERP |
|---|---|---|---|
| **Financial** | Bookkeeping / Accounting | Financial Management | Financial Management |
| **Sales** | Form Generation Data Entry | Sales Management | Sales Work Flow |
| **Purchase** | Form Generation Data Entry | Purchase Management | Supply Chain Management |
| **Inventory** | Stock keeping | Store Management | Warehousing |
| **Customer Service** | * | Warranty Service Record | Docket CRM |
| **Manufacturing** | * | Single Layer MRP | Custom BOM, Production Management |

# WAN 1 – Centralized Server

**Branches**

Terminal Client

**Wide Area Networking**

**HQ**

Application Server — **Tier 3**

Consolidation Server — **Tier 2**

Database Server — **Tier 1**

Terminal Server
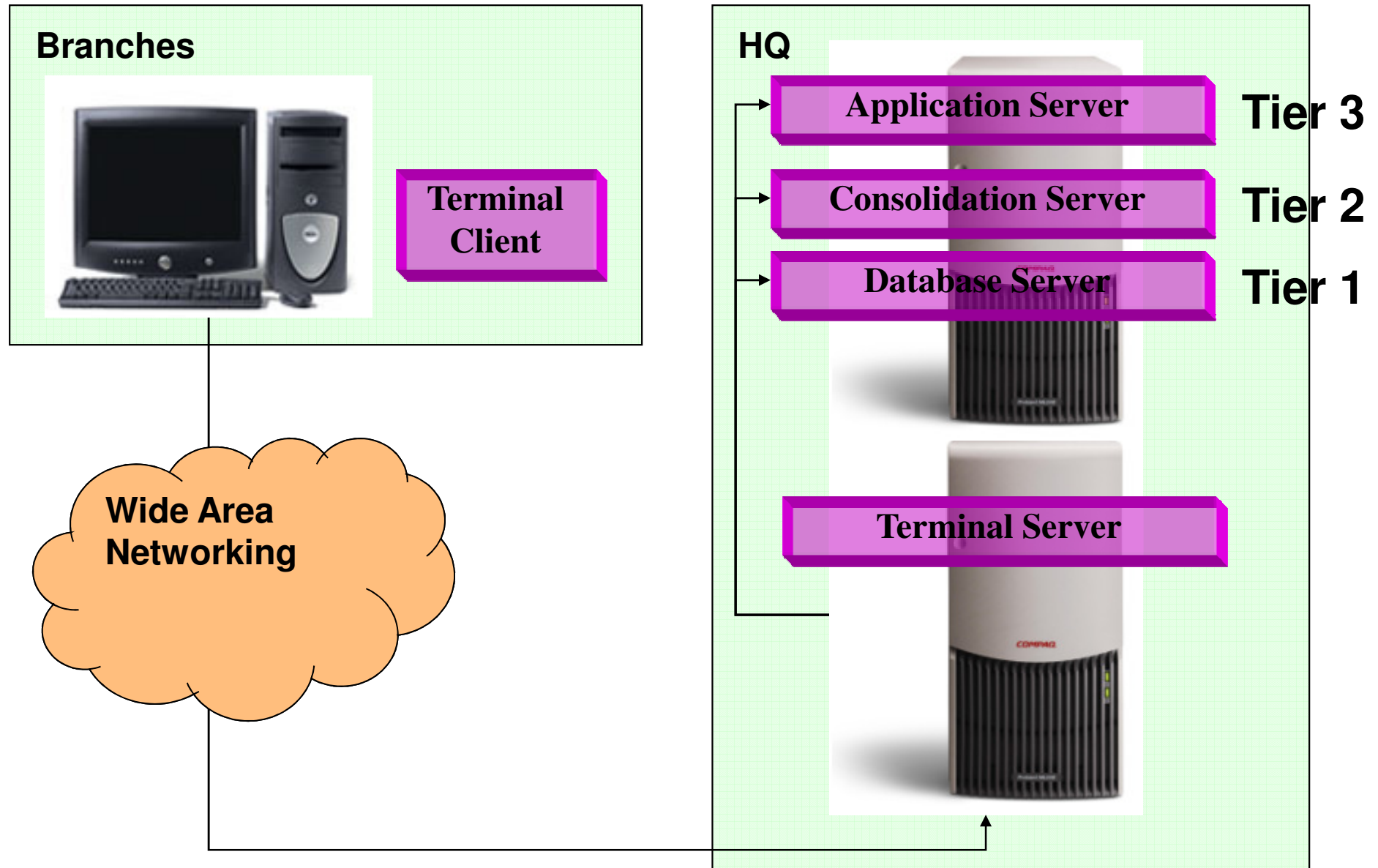
# WAN 2 – Multi-Server Batch Processing

**HQ**

**Client Software**

**Application Server**

**Database Server**

**Batch Processing Server**

**HQ Server**

**Branches**

**Application Server**

**Database Server**
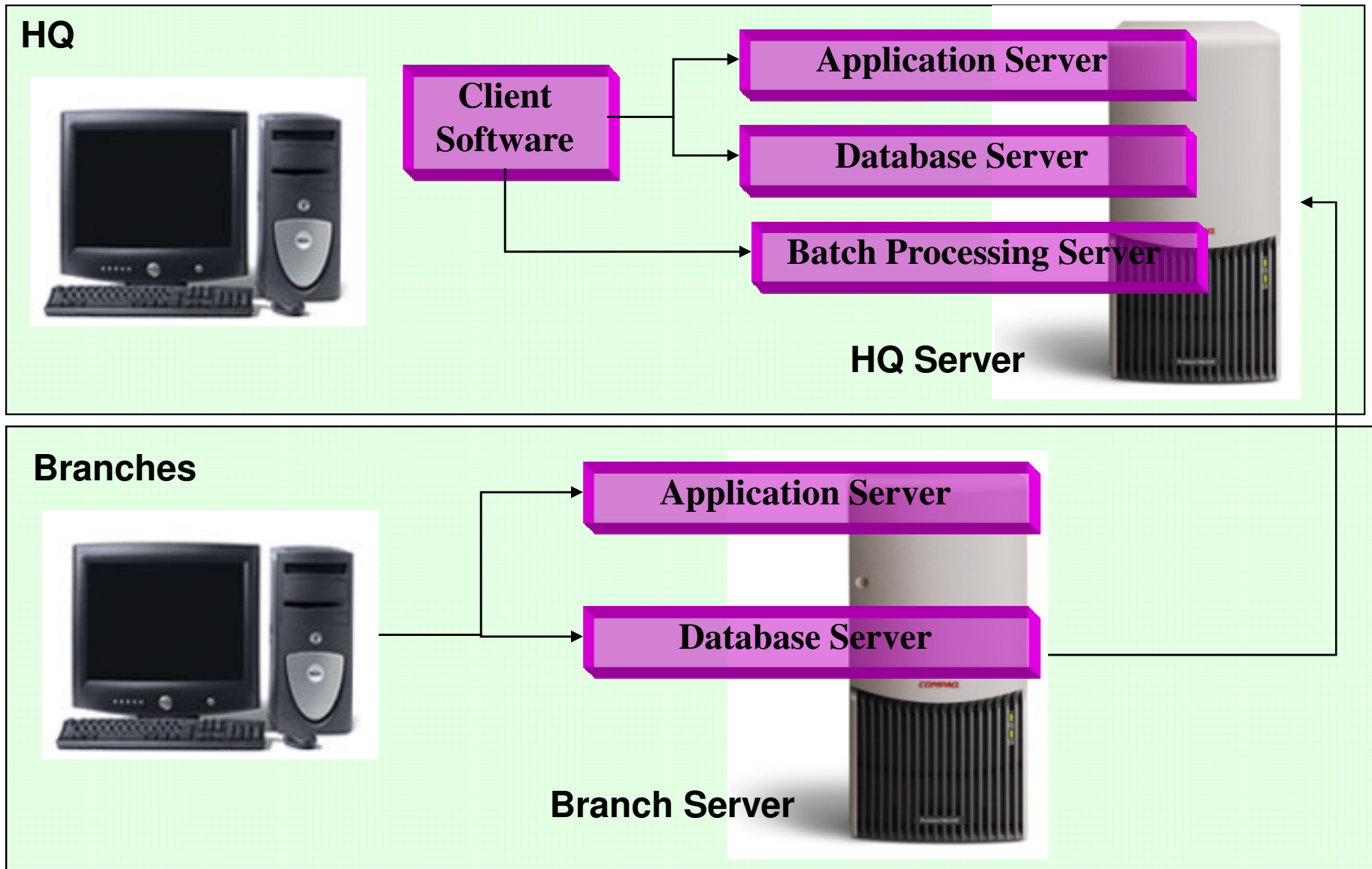
**Branch Server**

# WAN 3 – Consolidation Server

**Small Branches**

**Individual Client Software Modules**

**Operational Branches**

**Database Server**

**Application Server**

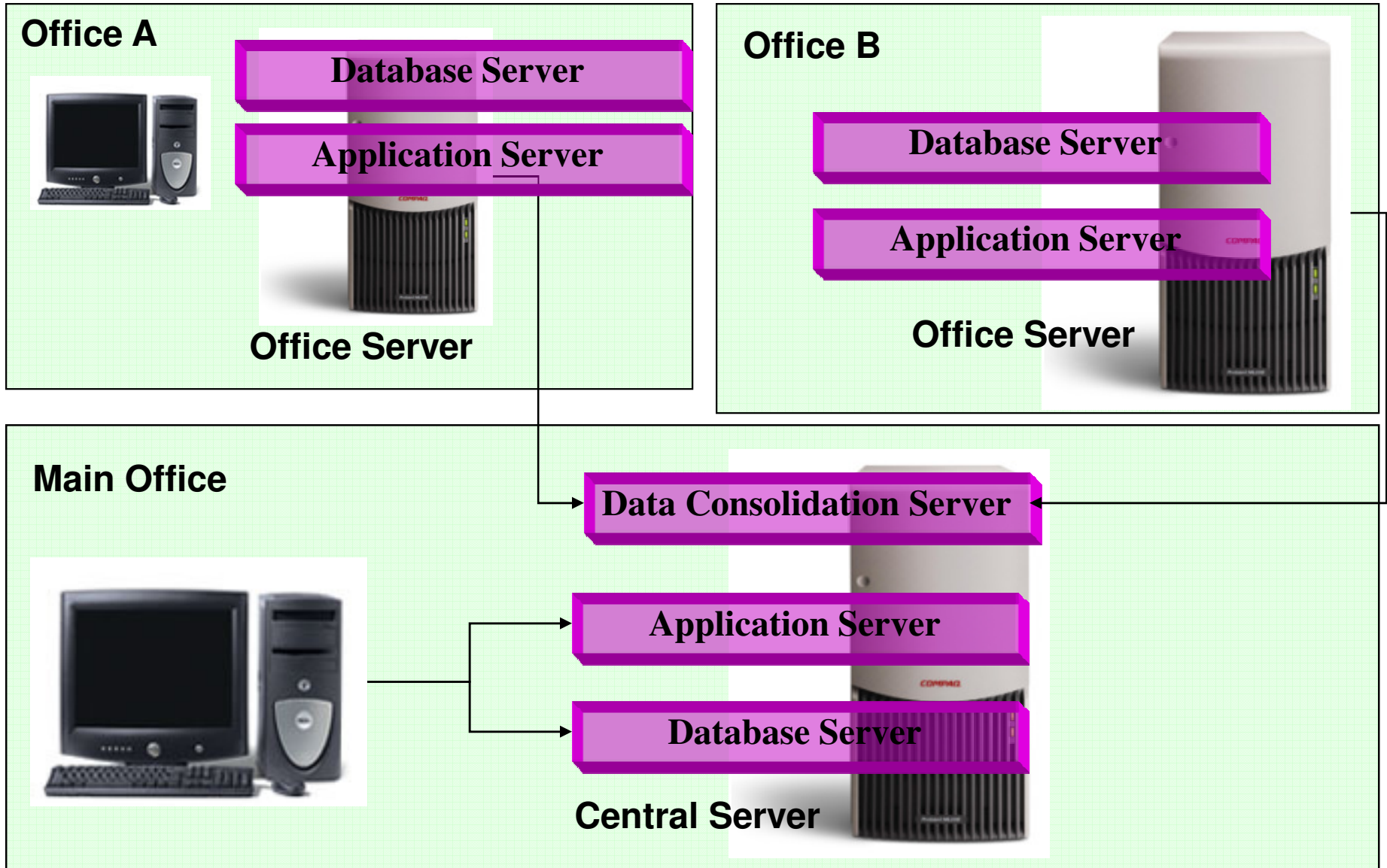**Branch Server**

**Data Consolidation Server**

**Application Server**

**Database Server**

**HQ Server**

# Load Balancing Solution

**Office A**

**Database Server**

**Application Server**

**Office Server**

**Office B**

**Database Server**

**Application Server**

**Office Server**

**Main Office**

**Data Consolidation Server**

**Application Server**

**Database Server**

**Central Server**

# Comparison

| | Centralized Server | Multi-Server |
|---|---|---|
| Loading Considerations | ■ Very demanding on server hardware with increasing concurrent user count | ■ Almost static server requirement<br>■ No scaling necessary |
| Remote Office Access | ■ Additional Layer by Terminal Server<br>■Centralized Database | ■ Direct Local Access<br>■Remote Synchronization and Consolidation |
| Cost Effectiveness | ■ Saving of Server Cost<br>■ Increased Line cost<br>■ Increased user count cost | ■ Increased one time server cost<br>■ Low long term operating cost |
| Line Dependency | ■ Operation depends on line speed and availability | ■ No dependency for operation |

# Detail Comparison - Loading

| | Centralized Server | Multi-Server |
|---|---|---|
| Terminal Server Hardware | ■ Terminal Server Software requires additional server hardware for optimal performance | ■ No Terminal Server |
| Terminal Server Load | ■ Each Terminal Server is not recommended to serve more than 25 concurrent users, additional hardware power is required | ■ No Terminal Server |
| User Count Cost | ■ RM 2500 per user | ■ RM 1000 per user |
| Application Server Load | ■ Each Application Server is not recommended to serve more than 20 concurrent users , additional hardware power is required | ■ Each Site has its own Application Server or Client Application |

# Detail Comparison - Line Dependency

|  | Centralized Server | Multi-Server |
|---|---|---|
| Line usage | ■ Fully utilized | ■ For synchronization purposes only |
| Availability | ■ Cannot operate if communication line is down | ■ Sales, Store, Finance, Warehouse, Manufacturing Operation continues even if line is down |
| Line Cost | ■ Line Cost depends on line quality and speed | ■ Minimal communications speed and cost required |
| Screen Speed | ■ Screen speed depends on line speed ( 256 kbs average on secured lines, about 5 seconds delay for each click) | ■ Direct screen response time (no delay) 100,000 kbps |
| Remote Offices | ■ Remote office locations without broadband will need special leased lines at additional cost | ■ Can use dial up internet access |

# Detail Comparison – One Time Cost

| | Centralized Server | Multi-Server |
|---|---|---|
| Application Server Cost | ■ One Server | ■ One for each Operation Site |
| Branches Cost | ■ By user count | ■ By module cost |
| Terminal Server | ■ Recommended but optional | ■ No need |