

**ATI- Electronic Funds Transfer Network  
ATI-EFTN**

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## Functional Specifications

BEFTN inter-bank Electronic Funds Transfer clearing and settlement system, it describes the application interfaces between the central BEFTN clearing and settlement system and the processing systems at the participant banks. BEFTN Clearing System as customized to interface with the origination and receipt BEFTN clearing solutions of the participant banks.

The ATI electronic funds transfer network (ATIEFTN) will operate as a providing and receiving to/from BEFTN system which provides for the distribution and settlement of electronic credit and debit transactions among all participating banks. BEFTN will operate in a real-time, batch processing mode.

Transaction files from ATIEFTN are delivered to the BEFTN clearing system via the bank's PBM. The PBM processes the EFT files received from the bank in order to detect any duplicate or stale files at the earliest opportunity. This is to allow the originating bank sufficient time to fix the errors and resubmit the file. Items processed by BEFTN will be distributed to their receiving banks. All transactions will be calculated into a single multilateral netting figure for each individual bank. Final settlement will take place using accounts that are maintained with Bangladesh bank. Participating banks in the EFT Network and the BEFTN processing centre will be inter-connected via communication lines.

In addition to the clearing facilities provided by BEFTN, long-term storage in the central archive and the subsequent retrieval of stored EFT item information from the central archive will be provided. The BEFTN clearing system and BEFTN central archive (BCA) are parameterized to provide for the processing of each type of work in accordance with the requirements of the BACH.

BEFTN processing of EFT transactions at the BACH is based on the member banks using suitable software components to generate the transaction data for originating EFT transactions; and, to receive, validate, and make pay / no-pay decisions for EFT transactions that are received in accordance with the rules.

The originated EFT transactions are consolidated and presented to the PBM in EFT files for submission to the BEFTN system for processing and continued delivery to the receiving bank.



## BEFTN Functional Overview which comply by ATIEFTN

ATIEFTN will do supports by referencing BEFTN of Bangladesh bank Solution provides for a variety of EFT payment applications, Each EFT application is identified by a specific three-character code, the Standard Entry Class (SEC) Code, which appear in the EFT batch record used to carry the payment and payment-related information relevant to the application. The following is the list of valid SEC codes and the different products each code supports.

- I. Consumer Applications
  - a. CIE – Customer Initiated Entry: Customer initiated entries are limited to credit applications where the consumer initiates the transfer of funds to a company or another person for payment of funds owed to that company or person, typical example of these entries are utility bill and other Internet banking product payments.
  - b. PPD – Prearranged Payment and Deposit Entry
    - i. Direct Deposit: Direct deposit is a credit application that transfers funds into a consumer’s account at the receiving bank. The funds being deposited can represent a variety of products such as payroll, remittances, interest, pension, dividends and/or refunds, etc.
    - ii. Preauthorized Bill Payment: A preauthorized payment is a debit application. Companies with billing operations may participate in the EFT through the electronic transfer (direct debit) of bill payment entries. Through standing authorizations, the consumer grants the company authority to initiate periodic charges to his or her account as bills become due. This concept is especially applicable in situations where the recurring bills are regular and do not vary in amount such insurance premiums, loan installments, etc. Standing authorization may also used for bills where the amount does vary, such as utility payments.
- II. Corporate Applications
  - a. CCD – Corporate Credit or Debit: This application can be either a credit or a debit application where funds are either distributed or consolidated between corporate entities. This application can serve as a stand-alone fund transfer between corporate entities, or it can support a limited disclosure of information when the funds are being transferred between organizations (i.e. sister concerns) under the same group.
  - b. CTX – Corporate Trade Exchange: This application supports the transfer of funds (debit or credit) within a trading partner relationship in which funds are transferred with business remittance information.



The parties and BEFTN place the payment-related information in multiple addenda records in format agreed to.

### III. Other Applications

- a. ADV – Automated Accounting Advice: This SEC Code represents an optional service to be provided by EFT Operators that identifies automated accounting advices of EFT accounting information in machine-readable format to facilitate the automation of accounting information for Participating Banks.

## Scopes of work

- Scalable
- Integrated
- Extensible
- Modular
- Reliable
- Accessible
- Complete observance of minimum display layers, database, business rules
- Using object-oriented or service-oriented programming environment
- Using new tools and standards in designing and software development
- Centralized and decentralized utilization of application software
- Create dynamic multiple reports and online reports
- Providing notices, alerts and reports by various means (fax, email, telephone, and SMS)\*
- Interactive Online help
- Electronic and printed user guideline documents in each section
- Comprehensive documents related to installing and running the systems (electronic and printed versions)
- Provider of drill-down reports
- Prepare reports in different formats (including MS Word, HTML, XML, PDF, etc.)
- Prepare simultaneous reports or queries without slowing down system performance
- Preventing entry of invalid information in systems
- Observing security issues with respect to different levels of user accessibility to systems
- Prepare backup copies automatically and on different media
- System to provide systematized bug reports and to provide recommended fixes

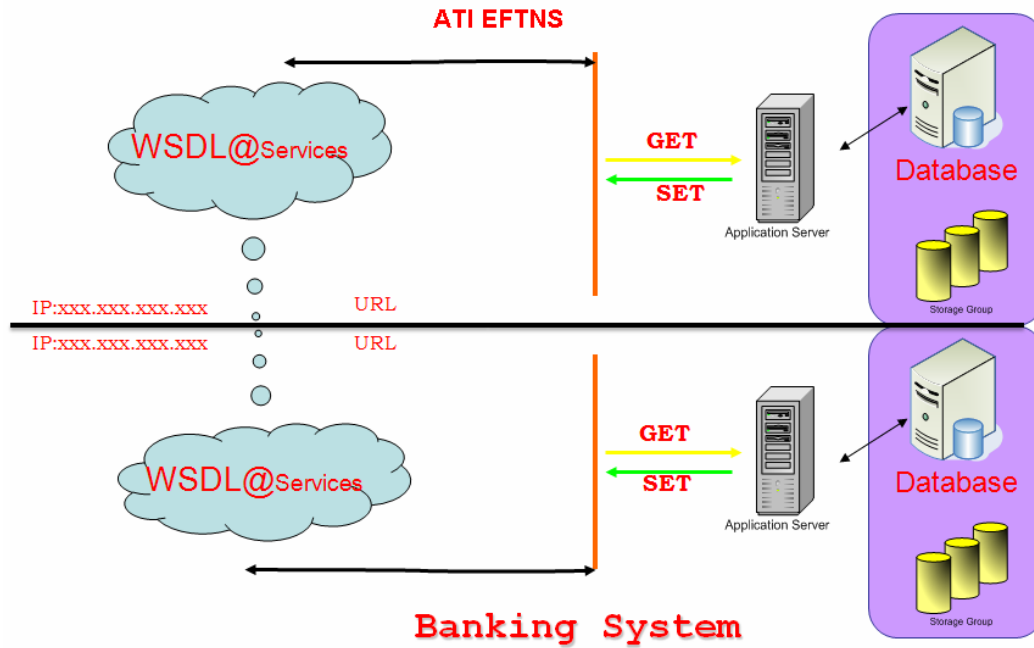


- Upgrade systems and provide patches and bug fixes online
- Different statistical reports from consolidated or drill-down information
- Dynamic searches based on different fields
- System to change user passwords and define Role Based authorized operation limits for users
- Ability to track operations by user
- Ability to disconnect automatically in case of inactivity within a specified time
- Ability to report attempts at unauthorized access, as well as erroneous password entries
- Possibility of assigning user accessibility entry exclusively by workstation
- Possibility of allocating accessibility levels according to group or individual
- Ability to change accessibility levels or authorized activities onsite or remotely
- Ability to define accessibility for individuals for fixed timeframes and for specific activities.

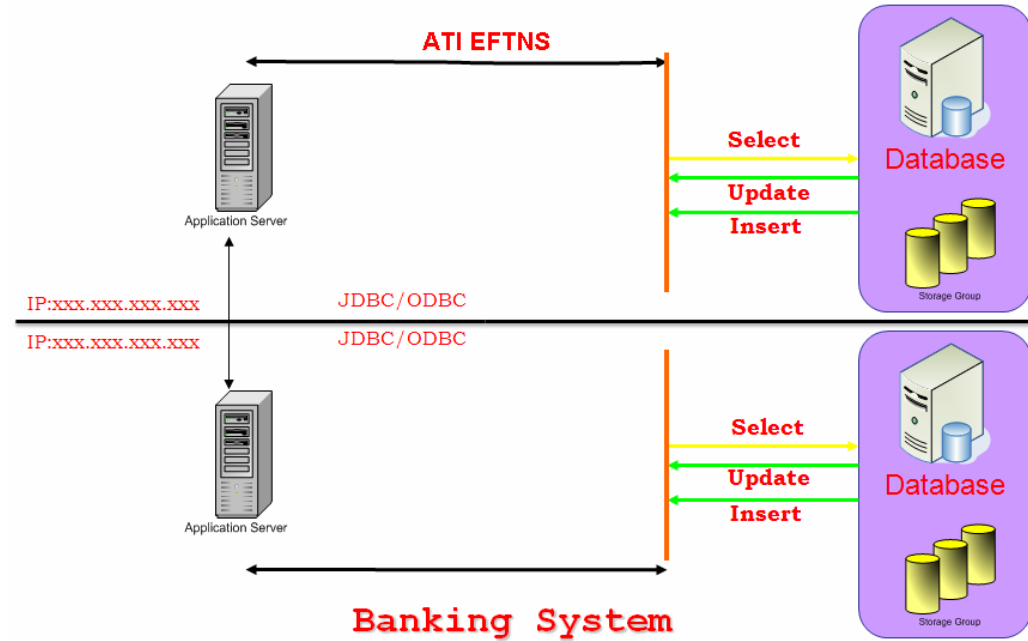


# Technical Architecture

## Web Service Connectivity

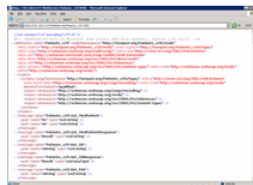


## Direct Connectivity



## Interfacing with Hardware and Application system

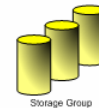
### Web Service



### Direct Database Connectivity



```
SELECT Name FROM HR_Emp
WHERE Emp_No='98765';
```



### Other Database/File System



### Customized Data Format

~~\$Mr. Rahman\$19780905\$~



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## Software Architecture

- i. Oracle JDeveloper 11g
- ii. Application Oracle WebLogic Server 10.3
- iii. Oracle Database 11g
- iv. Oracle Reports

## Clients Interface

1. Microsoft Internet Browser 7/Mozilla Firefox 3
2. Adobe Flash Player
3. Adobe Acrobat Reader
4. Ms Office

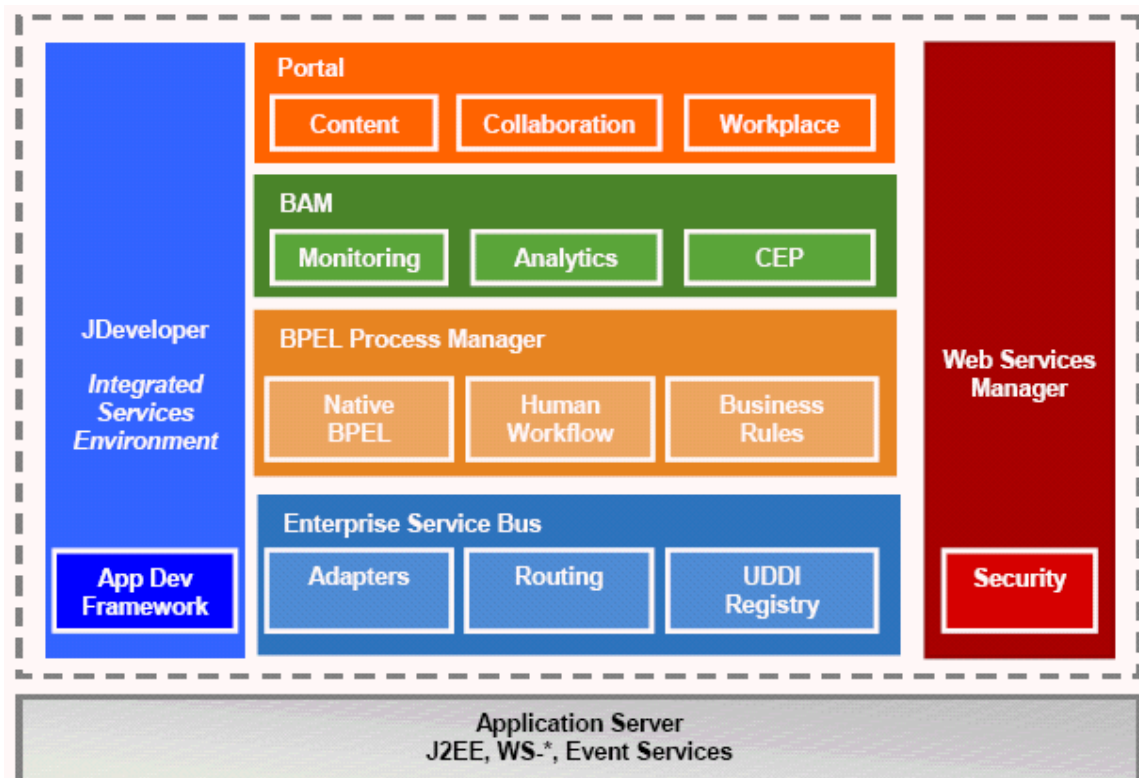


Fig: ATIEFTNS - middleware

*Note: As per ATI analysis of Southeast Bank, client's core bank modules are going to upgrade oracle System so we are proposing to enhancement of Oracle architecture.*

*Although we are proposing Oracle architecture we also do implement system by SQL Server 2005 according to client's recommendation.*

## Proposed oracle Database and Middleware

<b>Production Environment</b>
<b>Product Details</b>
Oracle Database11g
Oracle WebLogic10g
<b>Alternative Backup Environment</b>
<b>Product Details</b>
Oracle Database 11g
Oracle WebLogic10g

Table: Proposed oracle Database and Middleware

## Database

### Advanced Compression

Oracle Advanced Compression—with Oracle Database 11g Edition—helps you manage your growing amounts of data (that on average are tripling every couple of years) in a cost effective manner. Oracle Advanced Compression compresses any type of data, including structured and unstructured data such as documents, images, and multimedia, as well as network traffic and data in the process of being backed up. As a result, Oracle Advanced Compression helps you use resources more efficiently and lower storage costs.

### Advanced Security

Oracle Advanced Security provides transparent data encryption of data stored in the database and network encryption for data traveling across the network. In addition it provides a complete suite of strong authentication services to the Oracle Database. Network encryption is implemented using industry-standard data encryption and data integrity algorithms. This option provides a choice of algorithms and cipher strengths for deployment. Strong authentication services support a comprehensive suite of industry-standard third-party



authentication options. The authentication options include single sign-on services to the Oracle Database by interoperating with existing authentication frameworks and two-factor authentication choices such as smart cards and token cards.

### **Database Vault**

Oracle Database Vault controls the who, when, and where of data and applications that can be accessed—protecting your business against the most common security threat: malicious internal users. Enforcing separation of duties, even among administrators, Oracle Database Vault additionally serves as a powerful preventive control to help comply with today's stringent compliance and privacy requirements. It achieves this by controlling access to application and database data, even by super-users and other highly privileged users. It also enforces multi factor authorization via flexible business rules and tracks who is accessing what and when via out-of-the-box security reports.

### **Oracle Data Mining**

Oracle Data Mining enables customers to produce actionable predictive information and build integrated business intelligence applications. Using data mining functionality embedded in Oracle Database 11g, customers can find patterns and insights hidden in their data. Application developers can quickly automate the discovery and distribution of new business intelligence—predictions, patterns and discoveries—throughout their organization.

### **In-Memory Database Cache**

Oracle In-Memory Database Cache enables you to improve application transaction response times and throughput by caching performance-critical subsets of an Oracle Database in the application tier. Automatic data synchronization between the cache and the Oracle Database ensures data consistency. By bringing data closer to the application and processing queries in an in-memory database, your applications are able to access, capture, or update information many times faster. The In-Memory Database Cache option of Oracle Database Edition is based on Oracle Times Ten In-Memory Database.

### **Label Security**

Oracle Label Security adds extensive protection for sensitive information. It delivers multilevel security capabilities to protect access to data right down to individual rows in tables and addresses the real world data security and privacy problems faced by government and commercial entities worldwide.

Oracle Label Security can be combined with Virtual Private Database, Secure Application Roles, and Oracle Database Vault to provide powerful solutions for protecting personally identifiable information.



**Oracle OLAP**

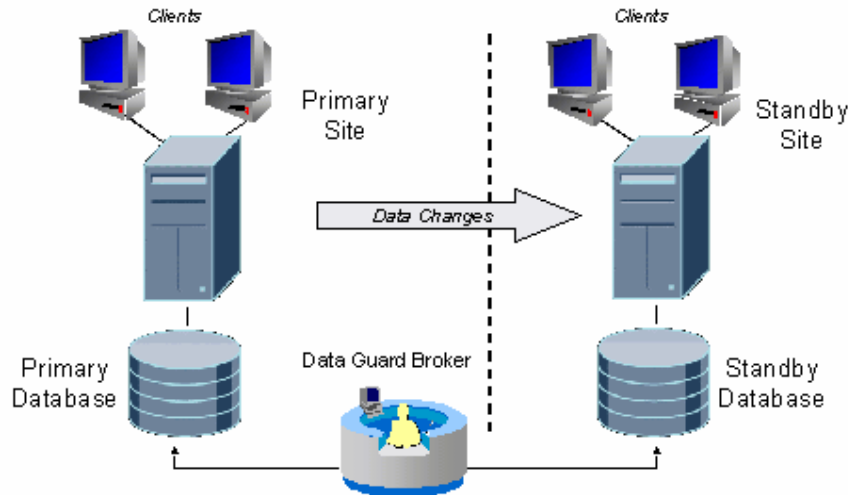
The OLAP option is a full-featured on-line analytical processing (OLA) server embedded within the Oracle Database. The OLAP option can be used to improve SQL-based business intelligence tools and applications by improving query performance and enriching them with analytic content. As an OLAP solution that is deeply embedded in the Oracle Database, the OLAP option allows centralized management of data and business rules in a secure, scalable and enterprise-ready platform.

**Partitioning**

Oracle Partitioning enhances the data management environment for OLTP, data marts, and data warehouse applications by adding significant manageability, availability, and performance capabilities to large underlying database tables and indexes. Oracle Partitioning permits large tables to be broken into individually managed smaller pieces, while retaining a single application-level view of the data. A comprehensive variety of partitioning methods are supported.

**Active Data Guard**

*(Not included in this proposal but in future/based on policy client can purchase oracle Enterprise license to implement RAC which will be support in any time without customizing system like as plug and play)*



Oracle Active Data Guard—an option for Oracle Database 11g Edition—enhances Quality of Service by offloading resource-intensive activities from a production database to one or more synchronized standby databases. Oracle Active Data Guard enables read-only access to a



physical standby database for queries, sorting, reporting, web-based access, etc., while continuously applying changes received from the production database. Oracle Active Data Guard also enables the use of fast incremental backups when offloading backups to a standby database, and can provide additional benefits of high availability and disaster protection against planned or unplanned outages at the production site.

### Data Guard Benefits

1. Disaster recovery and high availability

Data Guard provides an efficient and comprehensive disaster recovery and high availability solution. Automatic failover and easy-to-manage switchover capabilities allow quick role reversals between primary and standby databases, minimizing the downtime of the primary database for planned and unplanned outages.

2. Complete data protection

A standby database also provides an effective safeguard against data corruptions and user errors. Oracle validation insures that physical corruptions do not propagate to the standby database. Using Flashback Database, logical corruptions or user errors that cause the primary database to be permanently damaged can be quickly resolved.

3. Efficient utilization of system resources

A physical standby database can be used for backups and read-only reporting, thereby reducing the primary database workload and saving valuable CPU and I/O cycles. A physical standby database can be easily converted back and forth between being a physical standby database and an open read/write database, without compromising data protection. A logical standby database provides flexibility for adding local tables to the standby database that can also be updated, or creating additional indexes to optimize read performance.

4. Flexibility in data protection to balance availability against performance requirements

Oracle Data Guard offers several protection modes to balance data protection and availability against system performance requirements.

5. Protection from communication failures

If network connectivity is lost between the primary and standby databases, Data Guard will automatically reconnect and resynchronize the standby database once the original problem has been resolved.

6. Centralized and simple management

Data Guard Broker automates the management and monitoring tasks across the multiple databases in a Data Guard configuration. Administrators may use either



Oracle Enterprise Manager or the Broker's own specialized command-line interface (DGMGRL) to take advantage of this integrated management framework.

7. Integrated with Oracle database

Data Guard is available as an integrated feature of the Oracle Database (Enterprise Edition) at no extra cost.

### **Real Application Clusters**

*(Not included in this proposal but in future client can purchase oracle license to implement RAC which will be support in any time without customizing system like as plug and play)*

Oracle Real Application Clusters (RAC) harnesses the processing power of multiple, interconnected servers on a cluster. It provides unlimited scalability and high availability for any packaged or custom application by exploiting clustered hardware configurations, with the simplicity and ease of use of a single system image. Oracle Real Application Clusters allows access to a single database from multiple servers on a cluster, insulating both applications and database users from server failures, while providing performance that scales out on-demand at low cost. Oracle Real Application Clusters is a vital component of grid computing that allows multiple servers to access a single database at one time. Oracle Database 11g also includes Automated Storage Management (ASM) and Oracle Cluster ware. Combining the use of ASM and Oracle Cluster ware virtualizes storage, database servers, application servers, holistic management, and all the other aspects related to deploying and managing a virtualized IT environment.

### **Audit Vault**

Oracle Audit Vault is an enterprise-class audit consolidation and management solution that enables organizations to simplify compliance reporting, proactively detect threats, reduce costs, and secure audit data. Faced with numerous regulatory mandates and increasing concerns about insider threats, organizations are utilizing database audit data as an important security measure, enforcing the trust-but-verify principle. Oracle Audit Vault delivers an in-depth and comprehensive view of audit data pulled from the database, helps to ensure the integrity of this information, and can reduce the cost of compliance by making it easier for auditors and security personnel to manage and report on this data.

### **Oracle Secure Backup**

Oracle Secure Backup, Oracle's new tape backup management software, delivers secure, high performance network tape backup for Oracle databases and file systems. It provides an



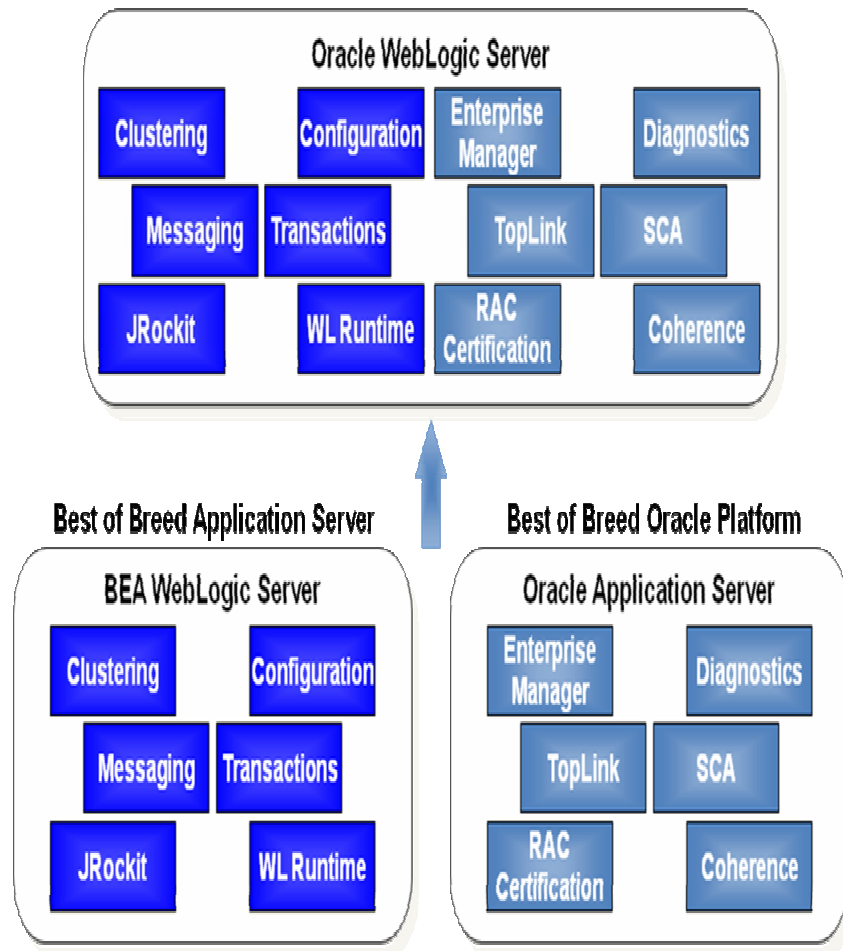
integrated, easy-to-use backup solution that encrypts data to tape to safeguard against the misuse of sensitive data in the event that backup tapes are lost or stolen. Oracle Secure Backup provides optimized backup performance of Oracle Databases via tight integration with the database engine, as well as advanced backup functionality including automated tape rotation, known as “vaulting”.

## Oracle WebLogic Middleware

**Comprehensive**—provides a complete offering—ranging from Java application servers and business process management to Enterprise 2.0 user interaction and content management

**Pre-integrated**—Delivers best-in-class middleware products that work together and with Oracle Database and Oracle Applications to lower the cost of ownership

**Hot-pluggable**—allows customers to drop and deploy Oracle middleware into heterogeneous IT environments, providing long-term flexibility, and the ability to optimize existing IT investments.



Thank You



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