

Chapter 1

1. Explain high level business intelligent system architecture model
2. What are the infrastructure factors considerations for back room and presentation server in BI system?

Answer : -any 4 -8m

***Data size,
volatility,
no of users,
no of business processes,
nature of use,
service level agreements,
technical readiness,
s/w availability,
financial resources***

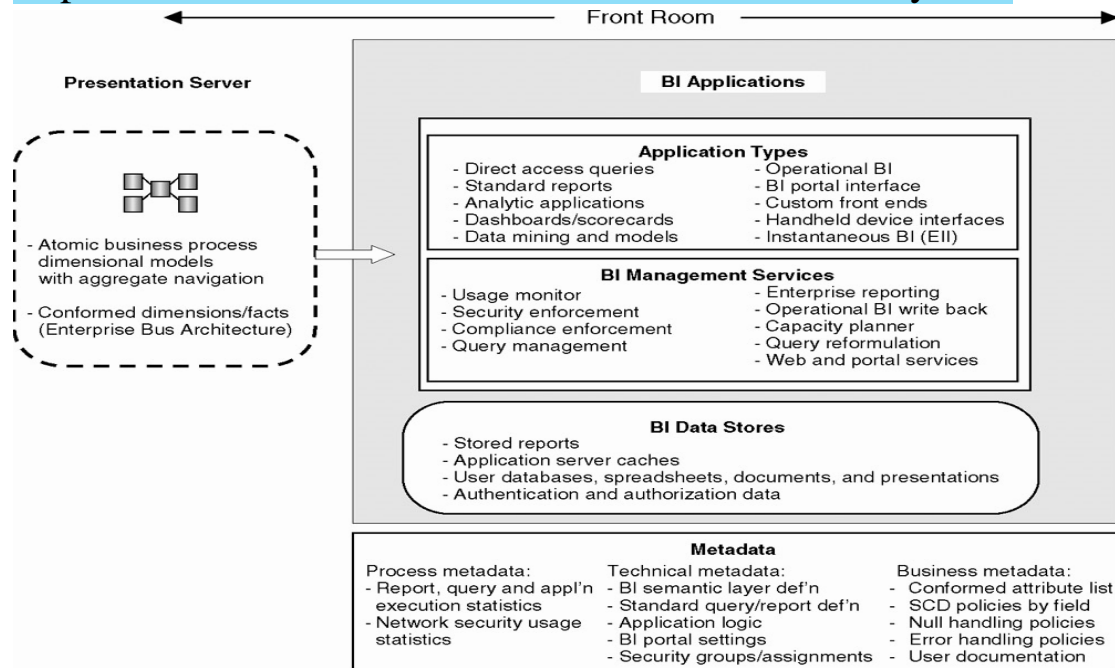
3. Explain front room BI metadata
4. Explain Backroom system architecture model
5. What are the infrastructure factors considerations for front room in BI system?

Answer :

***App server considerations,
desktop considerations,
connectivity and networking factors***

6. Explain presentation server metadata

7. Explain Front Room Architecture model of DWBI System



8. Explain need of metadata integration and metadata standards in DWBI System

ANSWER :

Impact analysis,

audit & documentation,

metadata quality & management -3m

Standards-common warehouse metamodel(CWM),

MetaObject facility(MOF) -3m

9. What are Common Architecture Features of DWBI System?

ANSWER : -any 3 -6m

Metadata Driven,

Technical,

business and process metadata,

Flexible Services Layers Master Data Management

10. What is Data Warehousing/Business Intelligence System (DW/BI)? Illustrate your Answer with suitable example

11. Discuss in brief parallel processing hardware architecture

12. Write short note on benefits of DW/BI system

13. Discuss the security vulnerabilities in DW/BI System

14. Show that DW/BI is the need of Industry

15. What are ETL Management Services?

ANSWER :

Job scheduler,

Backup system,

Recovery and restart,

Version control,

Version migration Workflow monitor,

Sorting,

Lineage and dependency,

Problem escalation,

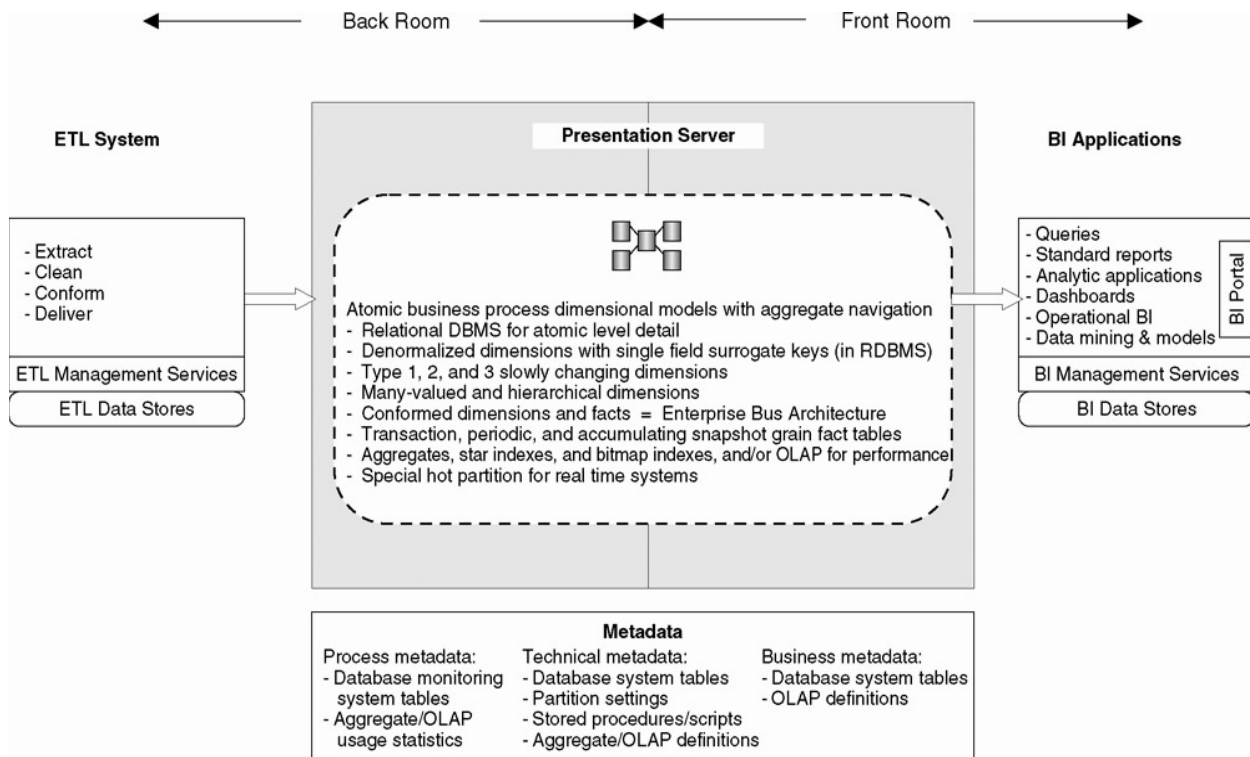
Paralleling and pipelining,

Compliance manager,

Security, Metadata repository

16. Explain presentation server system architecture in DW/BI System

ANSWER:



18. What are different source systems for DWBI System?

ANSWER :

Enterprise Resource Planning Systems,

Operational Data Stores,

Reporting Operational Data Stores,

Master Data Management,

XML Sources,

Message Queues,

Log Files,

and Redo Files,

Proprietary Formats

Chapter 2

1. How fact table is used in BI system? What is fact table granularity?
2. Explain Role playing and Junk Dimensions

3. Explain four step Dimensional Design Process

ANSWER :

***Choose the Business Process,
Declare the Grain,
Identify the Dimensions,
Identify the Facts***

4. Explain Factless fact tables and consolidated fact tables
5. Explain use of Enterprise Data Warehouse Bus Architecture in dimensional modeling
6. Explain Transaction Fact Tables, Periodic Snapshot Fact Tables and Accumulating Snapshot Fact tables
7. What is Dimension Table? Explain surrogate keys in Dimension Table
8. Explain Snowflaking and Outriggers
9. What is Dimension Table? Explain different methods for implementing slowly Changing Dimension
10. Explain Role playing and Mini Dimensions
11. Explain Degenerate Dimensions and Slowly Changing Dimensions

12. What is a Fact Table granularity? Explain different types of Fact Tables?

ANSWER :

- 1. Transaction Fact Tables.**
- 2. Periodic Snapshot Fact Tables**
- 3. Accumulating Snapshot Fact Tables.**

13. What is a Dimension Table? Explain use of Conformed Dimension in dimensional modeling

14. Discuss the benefits of using dimensional modeling to implement BI system? What are difference between dimensional modeling and normalized modeling?

ANSWER :

***Understandability,
Query performance***

15. Discuss fact tables, fact table keys and fact table granularity

16. Discuss in brief tables and facts about dimensional modeling

17. Write short note on snowflake dimensional table

18. What are the patterns and challenges that designer face when modeling dimension tables?

19. What is Junk Dimension? How junk dimension is used in dimensional modeling?

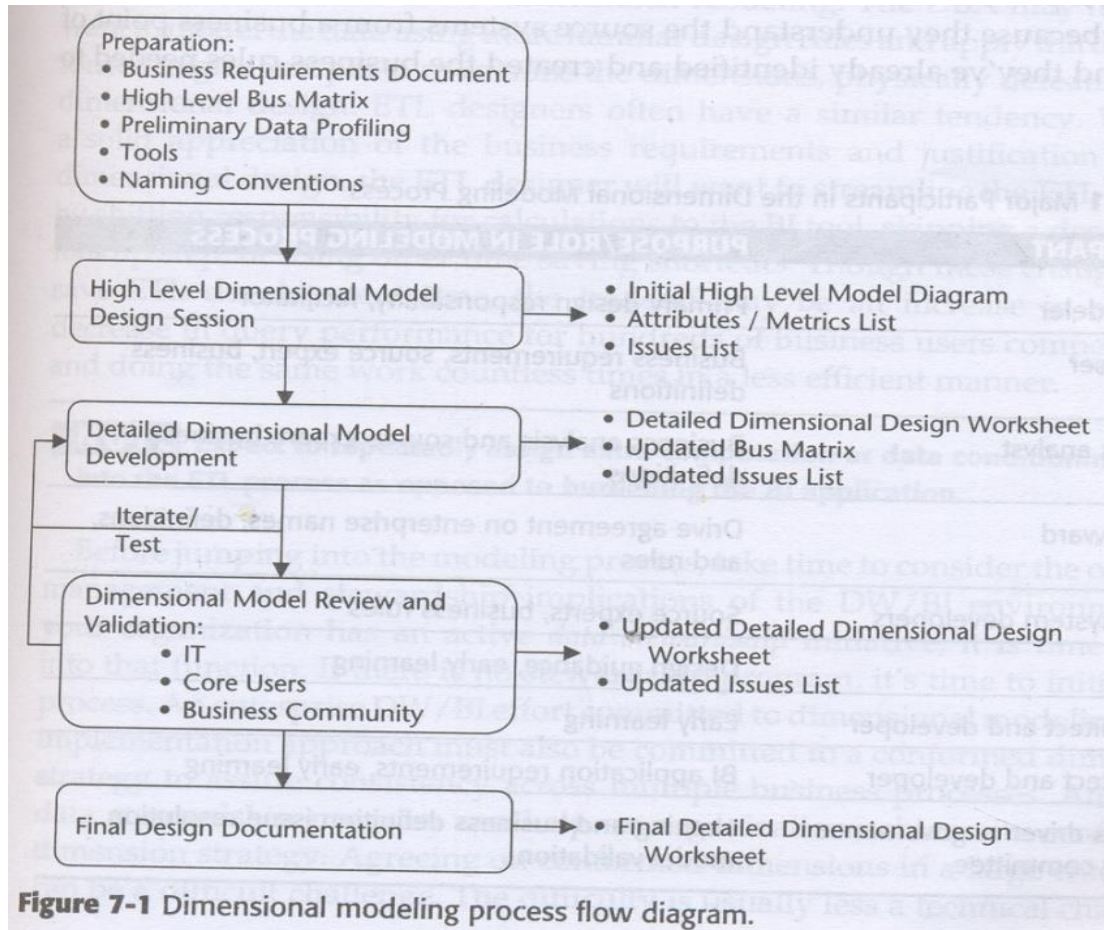
ANSWER :

When modeling a complex transactional business process, after identifying the obvious business dimensions, you are often left with a number of miscellaneous flags and text attributes that can't find an appropriate home in any of the existing dimension tables.

Chapter 3

1. Explain dimensional modeling process flow

ANSWER



2. Explain the process of reviewing and validating the dimensional model
3. How profiling and source data selection is done in designing the Dimensional Model?

4. Describe major participants and their roles in Dimensional Modeling Process

ANSWER :

Data modeler

Data modeler Primary design responsibility, facilitator

Power user

Business requirements, source expert, business definitions

Business analyst

Business analysis and source expert, business definitions

Data steward

Drive agreement on enterprise names, definitions, and rules

Source system developers

Source experts, business rules

DBA

Design guidance, early learning

ETL architect and developer

Early learning

BI architect and developer

BI application requirements, early learning

Business driver or governance steering committee

Naming and business definition issue resolution, model validation

5. Explain steps involved in building Detailed Dimensional Model

ANSWER :

*Identify the Data Sources,
Profile and Select the Data Sources,
Establish Conformed Dimensions,
Identify Base Facts and Derived Facts,
Document the Detailed Table Designs,
Update the Bus Matrix,
Review and Validate the Model*

6. Explain steps performed in high level dimensional model during dimension modeling process

ANSWER :

*Conduct initial design session,
document high level model diagram,
identify attributes and metrics*

7. Explain use of modeling tools and naming conventions in dimensional modeling

8. “While creating dimensional model the participants play major role”.

ANSWER :

How?

Discuss & justify it.

9. Discuss the importance of establishing data stewardship program in a DW/BI system

10. What are the steps performed in reviewing and validating the dimensional model?

ANSWER :

Perform IT Data Model Review,

Review with Core Users,

Present to the Business Users

Chapter 4

1. Explain ETL system requirements

Answer : –any 4 -8m

***Business needs,
compliance,
data quality,
security,
data integration,
data latency,
user delivery interfaces,
available skills,
legacy licenses***

2. Explain Change Data Capture system

Answer :

***Audit columns,
Timed extracts,
Full 'diff compare,
Database log scraping,
Message queue monitoring***

3. Explain audit dimension assembler in ETL system

4. Role of Data Profiling in ETL

5. Explain Extract System in ETL process

Answer :

file oriented extract,

stream oriented extract,

data compression,

data encryption -6m

6. What is the role of error event schema subsystem in ETL process?

7. Explain Deduplication and Conforming system in ETL process

Answer :

Deduplication -4m

Conforming -4m

8. Use of Data Cleansing System in ETL

Answer :

Quality screens,

responding to quality events -3m each

9. What are the various requirements that impact the design and development of the ETL system?

Answer : –any 4 -8m

*Business needs,
compliance,
data quality,
security,
data integration,
data latency,
user delivery interfaces,
available skills,
legacy licenses*

10. Explain Change Data Capture System in ETL

Answer :

*Audit columns,
Timed extracts,
Full 'diff compare,
Database log scraping,
Message queue monitoring*

11. How quality screens and error event schema is used for data cleaning process in ETL?

Answer :

*Quality screens definition and its use-4m
Error event schema definition and its use-4m*

12. How data profiling is done in ETL Process?

Answer :

Using query,

Using tools

13. How Business needs, Data Quality, Data Integration and Available skills requirements can impact the design and development of the ETL system?

14. Explain Audit Columns and Full diff compare techniques as change data capture system?

15. How Error event schema is used in ETL process?

Answer :

Fig-3m

exp-3m

16. Explain slowly changing Dimension manager in ETL System

Answer :

Type 1,

Type 2,

Type 3,

Hybrid

17. Explain surrogate key generator and Hierarchy Manager in ETL System

Answer :

Surrogate key generated using trigger or database sequence generator

Hierarchy Manager –fixed hierarchy handled using extra attribute,

ragged hierarchy using bridge table

18. What is Audit Dimension Assembler? How is it used in ETL process?

Answer :

The audit dimension is a special dimension that is assembled in the back room by the ETL System for each fact table.

The audit dimension in contains the metadata context at the moment when a specific fact table record is created.

19. What are the major components of ETL system?

Answer :

Extracting,

Cleaning and Conforming,

Delivering,

Managing

20. What is the need of the conforming System in ETL?

21. What is the need of deduplication System in ETL?

Chapter 5

1. Explain different types of BI applications

Answer :

*Direct access queries,
Standard reports,
Analytic applications,
Dashboards and scorecards,
Data mining and models,
Operational BI*

2. Use of Dashboards and Scorecards in BI systems

Answer :

Dashboard-fig-How it is used-explanation -3m

Scorecards-fig-How it is used-explanation-3m

3. Explain following related to BI System

- a) Clustering b) Affinity grouping
- b) Estimation and prediction

4. Explain Analytical and Presentation capabilities of Query Tools used in BI Systems

Answer :

*Basic calculations on the results set,
Pivot the results,
Drill down,
Column calculations on pivot results,
Column and row calculations,
Sorting,
Complex formatting,
Charting and graphs,
Compound documents,
User-changeable variables*

5. Explain Analytic Cycle for BI application

Answer :

*monitor activity,
identify exceptions,
determine causal factors,
model alternatives,
take action and track results -6m*

6. What are query formulation capabilities required in query tool for Business Intelligent applications?

Answer :

*Multipass or multiset queries,
Alerts,
Successive constraints,
Semi-additive summations,
ANSWER I SQL 99 support,
Direct query string entry*

7. How Datamining is used in DWBI Systems?

Answer :

*Clustering,
classifying,
estimating and predicting,
affinity grouping,
anomaly detection -8m*

8. What are the technical features expected in Query Tool used in BI Systems?

Answer :

*Multitasking,
Cancel query,
Scripting,
Connectivity,
Scheduling,
Metadata driven,
Software administration,
Security,
Querying*

9. How Analytic applications are used in DWBI Systems?

Answer :

Common analytic applications include:

Promotion effectiveness,

Web path analysis,

Affinity program analysis,

Shelf space planning,

Fraud detection,

Sales force management,

Category management

Pre-Built Analytic Applications,

Read/Write Analytic Applications

10. How Clustering and Affinity grouping is used for Datamining in DWBI Systems?

Answer :

Clustering-def- explanation -3m

Affinity grouping -def- explanation -3m

13) Explain following capabilities that help in improving the users experience of BI applications

ANSWER :

a) Ease of use

b) Meta Data Access

c) Pick list

d) Export to multiple files

e) Embedded queries

14) Explain need of following technical features for BI application and Query Tools

a) Cancel Query b) Scripting c) Connectivity d) Scheduling

e) Software Administration f) Security

15) Explain following presentation and analytical Capabilities of query tool in BI applications

a) Pivoting the results b) Drill down c) Complex Formating

d) Charting and Graphs e) Compound documents

f) User-Changeable Variables

16) What is the need of following query formulation capabilities in Query Tools

- a) Multipass or multi set queries b) Alerts c) Successive constraints
- d) Semi-additive summations

17) Compare Dashboard and scorecards

18) How DataMining is used for Estimation and Prediction and Anomaly Detection?

19) What is the role Density and Structure in creating BI portal?

20) List and explain the qualities required for BI portal

Answer :

Usable,

Content rich,

Clean,

Current,

Interactive,

and Value oriented

21) List and explain additional functionalities required for BI portal

Answer :

Search,

Metadata browser,

User forum,

Personalization,

Information center

Chapter 6

1. Explain steps in creating BI application specification

Answer :

***Designing report template,
identifying and specifying application applications,
designing navigation framework and portal***

2. What kind of preparation is required for BI application development?

Answer :

***Install and test BI tools,
populate BI tool metadata,
create business metadata,
test BI tools -8m***

3. What are the three major activities in building BI applications

Answer :

***Designing report template,
identifying and specifying the applications,
designing the navigation framework and portal***

4. Explain Business Intelligent application resource planning

Answer :

*role of BI app developer,
assigning jobs,
life cycle timing*

5. What are the steps in creating application templates in BI application specification?

Answer :

*determine naming standards,
create application templates,
create dashboards and
analytical templates -8m*

6. Explain Testing and Verification of Applications and Data in BI Application Development

Answer :

*Meaningless descriptions,
Duplicate dimension information,
Incorrect dimensional relationships,
Data not balancing,
Performance tuning*

7. Explain steps in creating detailed BI application specification

Answer :

Specify application content,

Design navigation framework and portal,

Review and validate applications and model,

review with business -8m

8. Explain following w.r.t BI application Development a) Install and Test the BI tools b) Validate BI application interface strategy

Answer :

a)Populate BI Tool Metadata,

create business metadata,

build sample queries to test each attribute in each dimension

b) web based portal tools,

navigation components of BI tool,

dashboard tools or codebased interfaces

9. Explain following w.r.t BI application development?

1) Define user interactions

Answer :

*static reports,
allow users to specify parameters to view results,
drop downlist,
checkboxes or radio buttons*

2) Format results

Answer :

*format for multiple targets,
look good when printed,
ability to export to excel and pdf,
use of tools for formatting*

10. What are the set of documents required for developing report/application in BI systems?

Answer :

Mock up.,

User interactions,

Datasets,

Algorithms,

advanced calculations,

and business rules,

Interactions with other reports/systems

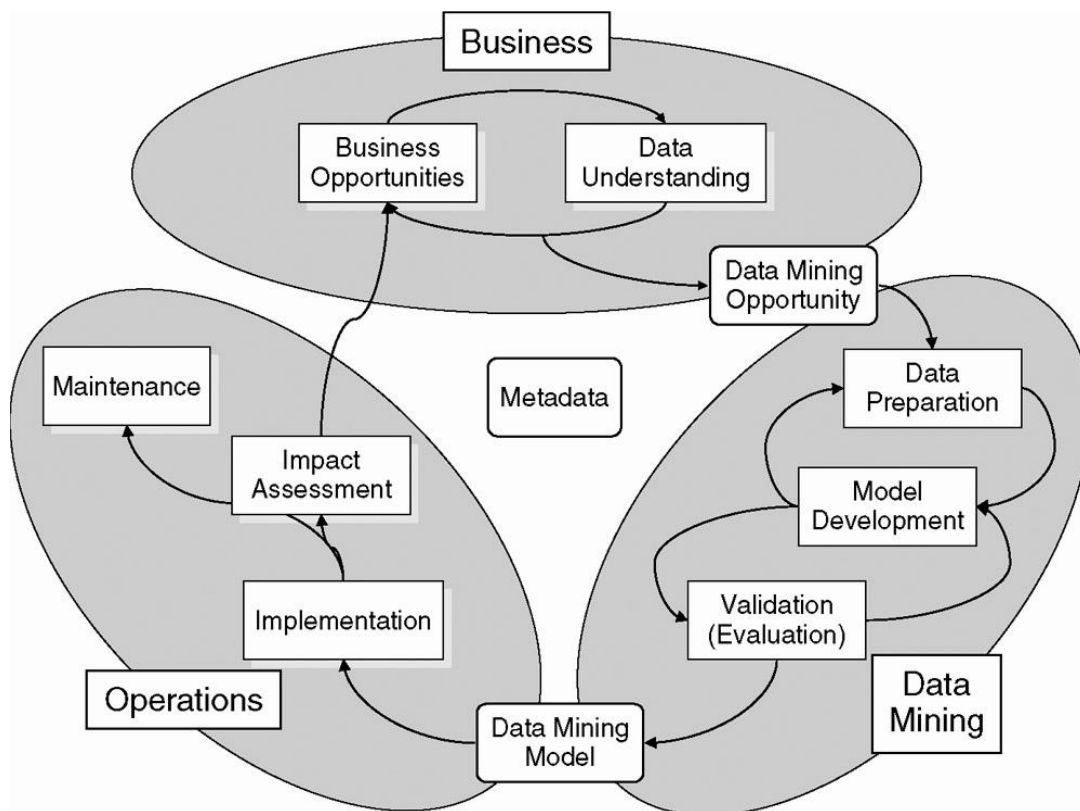
11. Describe process of creating application standards and templates in development of BI application?

Answer :

***Determine Naming Standards,
Create the Application Templates,
Create Dashboard and Analytic Application Templates***

12. Explain data mining model development and implementing process

ANSWER :



13. What are the issues in testing and verification of applications and data?

Answer :

Meaningless descriptions,

Duplicate dimension information,

Incorrect dimensional relationships,

Data not balancing,

Performance tuning