

Enterprise Information Management (EIM) Strategy

Data Driven World

EN•CORE

EN-CORE as a group of data experts provides a variety of services, including consulting, training, solutions, technical information based on data from the planning of the company's IT system to the analysis, design, development, implementation, management, and governance.

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3 EIM Strategy

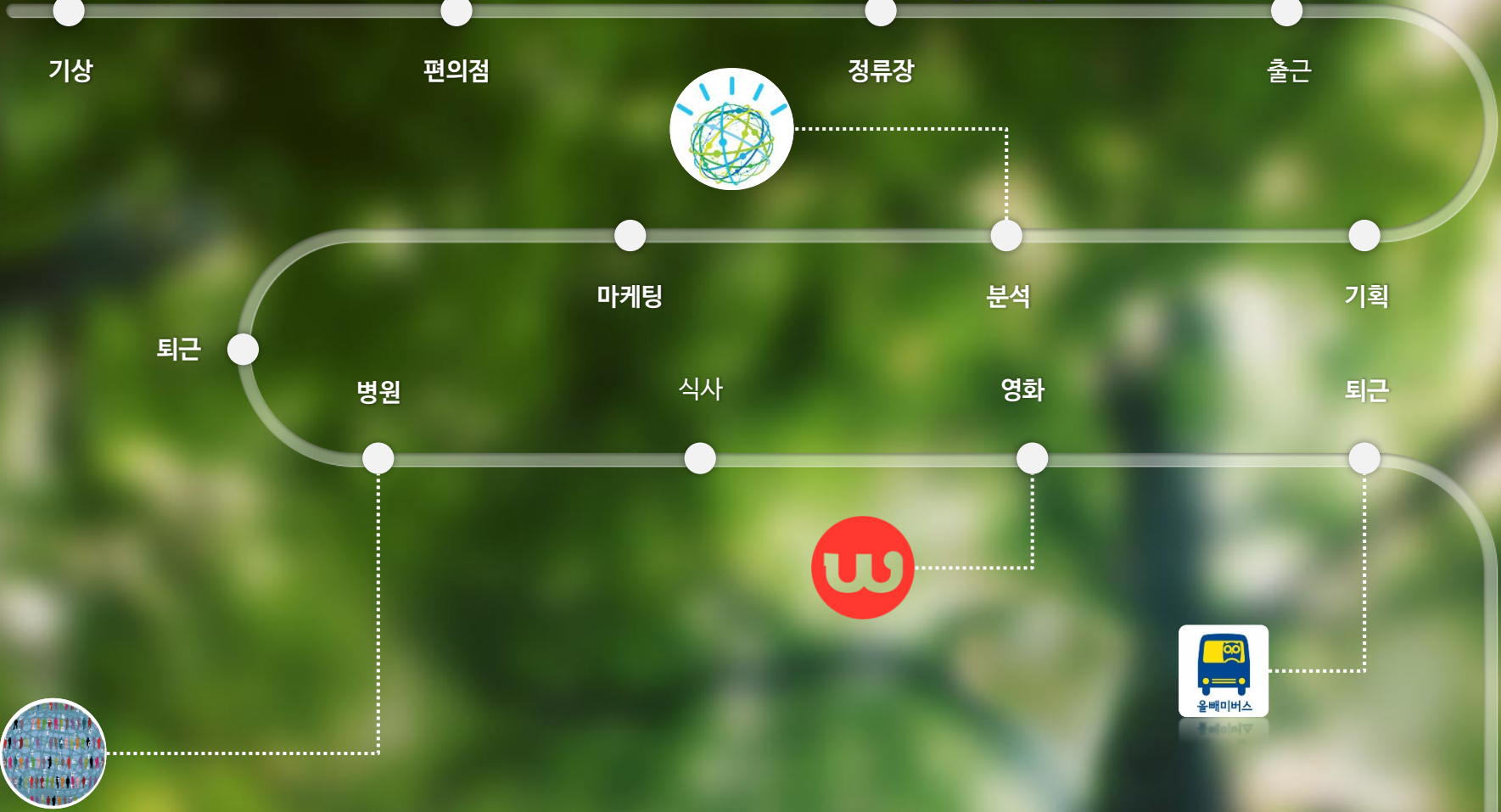




estimote



올베미버스



기상

편의점

정류장

출근

퇴근

마케팅

분석

기획

병원

식사

영화

퇴근

1000 Genomes 프로젝트를 통해
나의 감상선 질환 완치를 위한 최적의 치료 중



Beacon 위치 기반 데이터를 기반으로
나만을 위한 맞춤형 광고와 정보 제공



상가 데이터 및 신용카드거래 데이터 기반
빅데이터 분석으로 나를 위한 상점 오픈



통신사가 제공한 통화량 정보를 기준으로
승객이 많은 곳과 시간 대로 노선 및 배차 간격 조정



'자연어' 인식 기술을 활용한 '왓슨 애널리틱스'로
빅데이터 분석하여 판매 실적 개선 계획 발표 완료

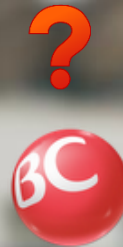
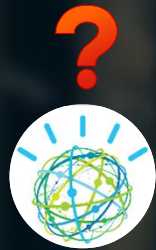


모든 가전 도구를 연결하는
스마트 홈 러닝 시스템



내가 봤던 영화를 스스로 평가한 평점을 기준으로
극장, TV, VOD 등 다양한 채널을 통해 추천





Enterprise Information Management(EIM)

Enterprise Information Management(EIM) is an initiative to manage data in all forms and treat them as a **strategic asset**.

A good EIM program will result in an integrated, accurate, timely data across your enterprise.

A good EIM program will have policies, frameworks, technologies & Process to address :

- ✓ Data models
- ✓ Data lineage
- ✓ Data quality
- ✓ Data profiling
- ✓ Stewardship

What's the need?

EIM will address these questions by process, tools and frameworks

View of the Enterprise based on 2 roles :

1. Business Architect perspective :

- ✓ What is the **system of record** for customers? Should that be the Sales, Customer Support, Accounts Receivable system OR a combination?
- ✓ If Master Data system is defined, how is this data being **propagated**?
- ✓ How fresh is my Data Mart that get data from a Cloud hosted service?

2. IT technology Architecture perspective :

- ✓ What's the best way to integrate with cloud services which can be private or public
- ✓ How do I model **NoSQL** databases with little formal structure.
- ✓ How to integrate **Social Feeds**(tweeter, facebook...)
- ✓ How to combine this with legacy and **traditional relational databases**.

Suggested Key Steps



Enterprise Architecture Alignment

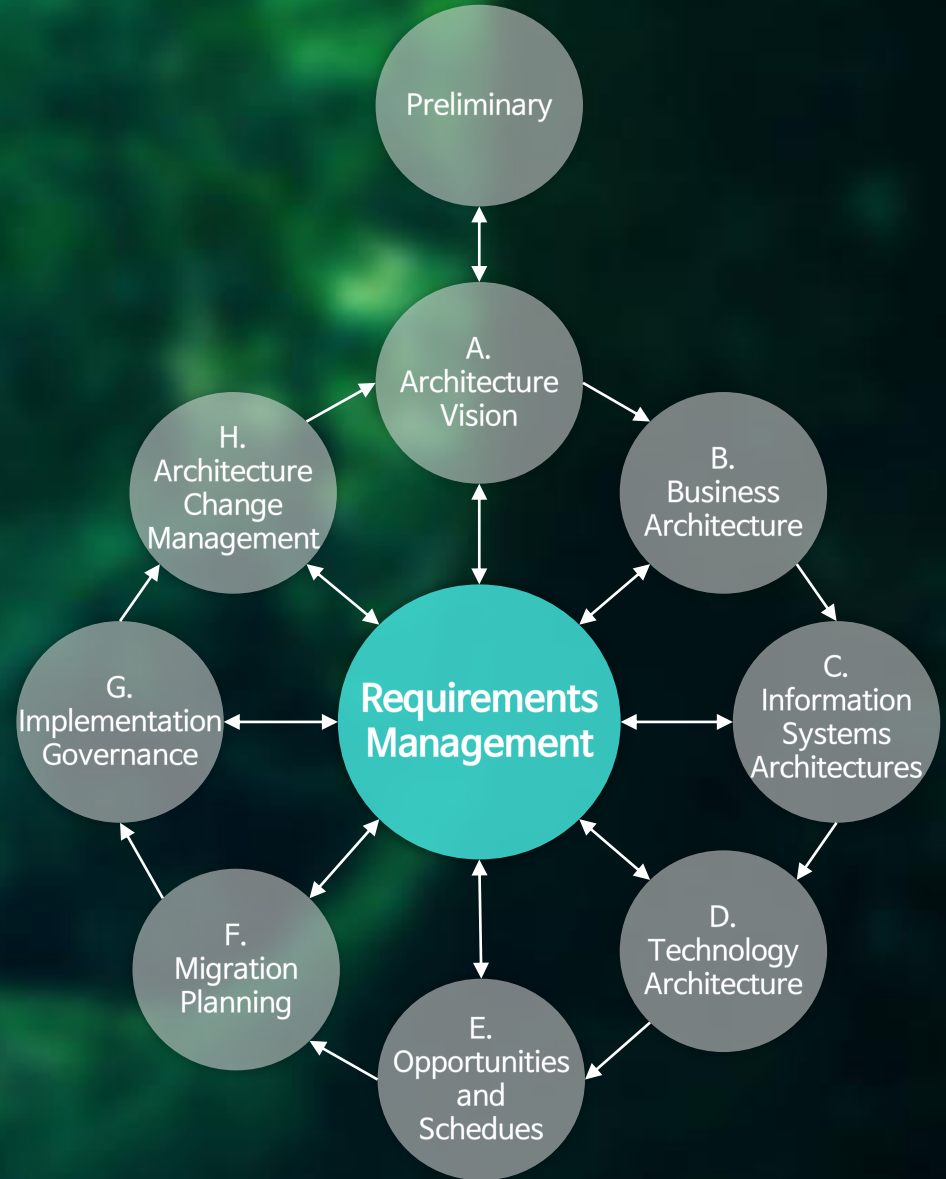
TOGAF is popular EA framework and recommends ADM which is an Iterative Process

Requirements at center and...

- ✓ Phase A : Vision, Stmt of work
- ✓ Phase B,C,D : Baseline, Gap analysis, target state
- ✓ Phase E : Initial implementation plan
- ✓ Phase F : Detail transition plan, cost benefits, risk
- ✓ Phase G : Arch Oversight; issue arch contracts
- ✓ Phase H : Procedures for managing change.

For each requirement, TOGAF looks at **Business, Application, Data and Technology**(hardware) Layers to ensure a **solution architecture** change is holistic.

Phase B is Business Architecture, Phase C is information System Architecture, which is further broken down into **Application and Data Architectures**.



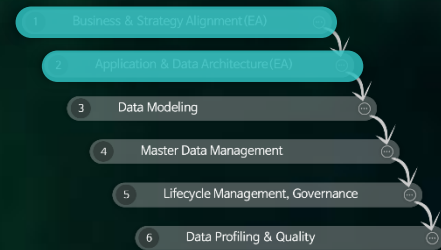
EA Alignment(contd)

Business Architecture(Phase B)

- ✓ What are the new goals for the organization
- ✓ What business requirements need to address by these goals
- ✓ What business functions, process and services will be changed/added

Applications & Data Architecture(Phase C)

- ✓ What Applications(IT systems) serve the business functions(as identified in Phase B); which ones will need revisions
- ✓ What application functions will be impacted
- ✓ What enterprise data entities will need to created/ updated/ stored to meet these changes
- ✓ What data transformations, interfaces(like ETL, Web services) need to be built/ changed



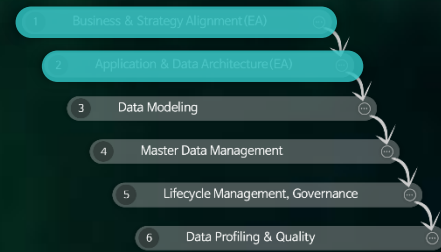
EA Alignment(Example)

Business Architecture(Phase B)

- ✓ Goal : Improve conversion rate leveraging social network of our customers
- ✓ Process Changes :
 - Customer registration(currently only has email), add facebook, twitter, linkedin, account information
 - Ad campaign team should use social networks for new leads and advertising

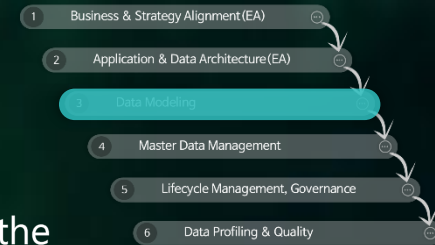
Applications & Data Architecture(Phase C)

- ✓ Application Architecture
 - Customer registration change for new fields
 - Integration changes to Marketing systems to push this new fields.
 - Automated ad's to customer's social network.(might suggest this to biz Architect)
- ✓ Data Architecture
 - Additional Columns/ Tables to capture new content
 - Consider a flexible model to accommodate other social media sites

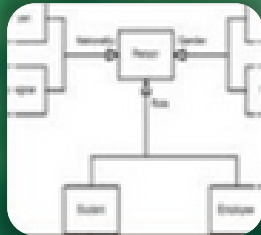


This example shows,
How the different
architects
can work together
and be effective

EA Data model - 3



While the EA effort will talk about data architecture changes at a high level, the data architects should build the next level of details in the following 3 layers :



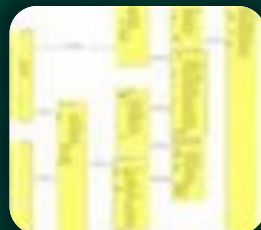
Conceptual Model

- Business Friendly
- Only High lever entities and taxonomy
- Connected to Business capabilities



Logical Data Model

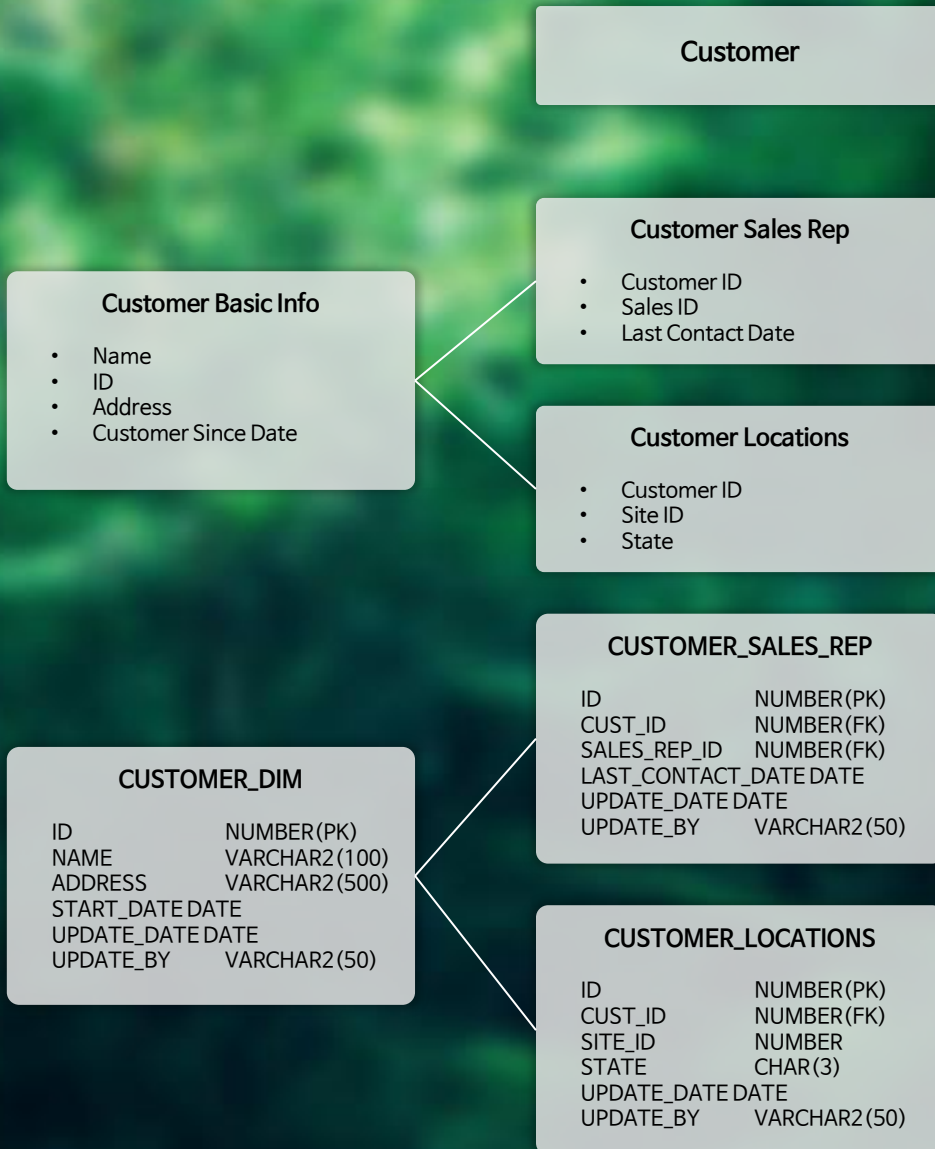
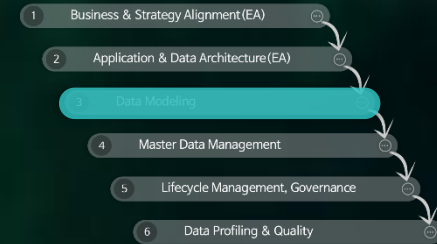
- Key entities, attributes
- Relationships to other entities, cardinality
- Ownership by IT Systems(System of Records)
- Interfaces and dependent IT systems



Physical Data Model

- Entity Relationship Diagram
- Physical characteristics(string, number, date, length)
- Constraints(Primary, Foreign, Referential)
- Data Store(Database name)

EA Data model - Example



Conceptual Layer

- Really High Level
- Customer Information

Logical Data Model

- Multiple Logical entities
- 1:N, N:1 relationships
- Interfaces identified
- Ownership defined

Physical Data Model

- Detail field types
- Typical Entity Relationship from DB

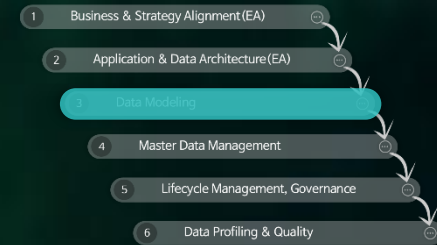
Data model - how to scale

To have a successfully Data Model, enable scaling on both directions :

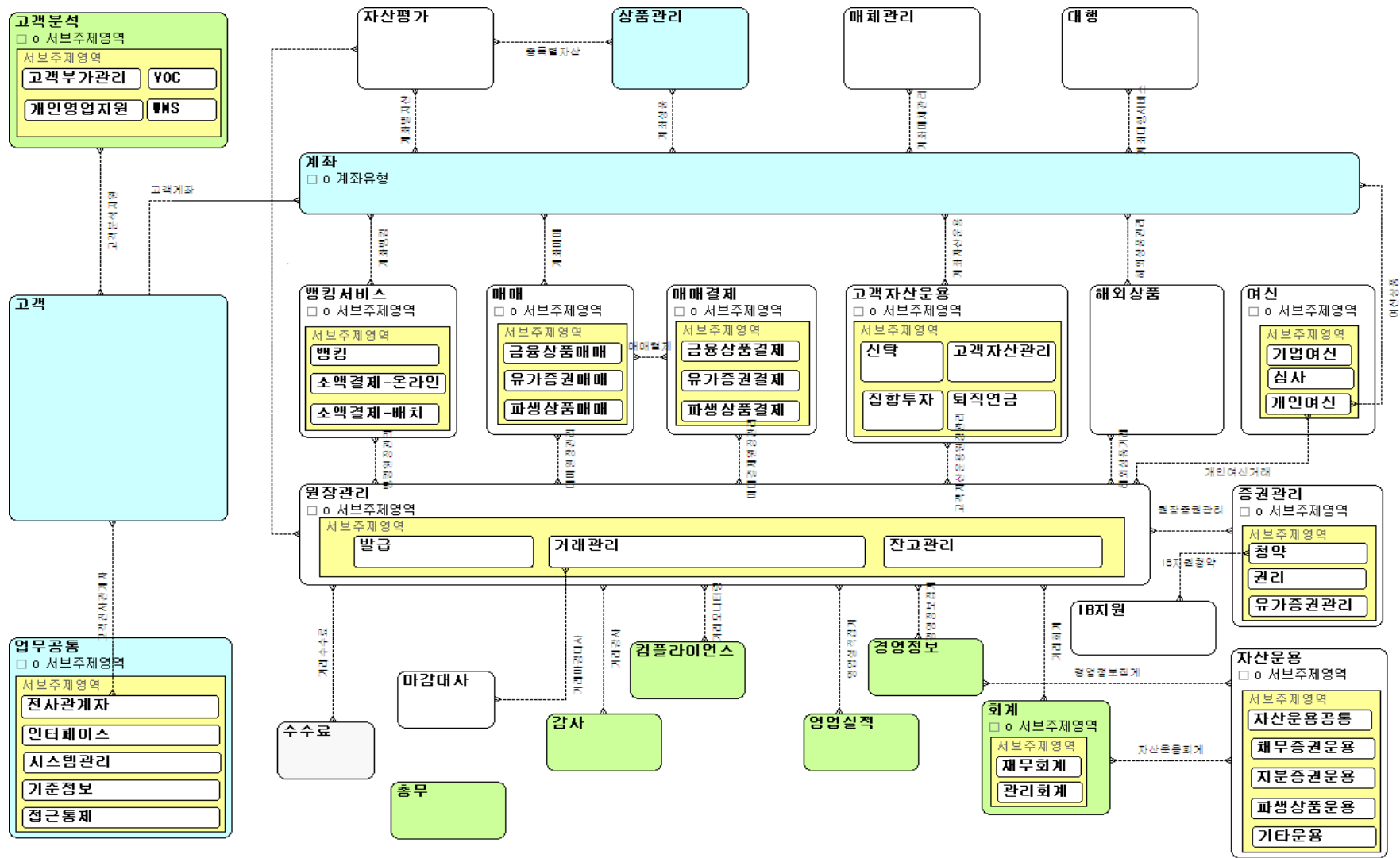
- ✓ **Vertically:** all layers of stack(Conceptual, Logical & Physical)
- ✓ **Horizontally:** segmented by line of business(Finance, HR, Marketing...)
- ✓ This will help you assign data stewards by domain and layer

For example say, let's take "Customer" and suppose your Company-A just made a recent acquisition of Company-B which has it's own set of customers

- ✓ **Conceptual Layer:** Customer will be one entity for enterprise
- ✓ **Logically Layer:** You can have 2 entities "Customer-A" and "Customer-B", both linked to the same conceptual entity but having different data due to the separate ling of business.
- ✓ The architecture target state should recommend a consolidation of the two Customer Entities if there is an overlap.

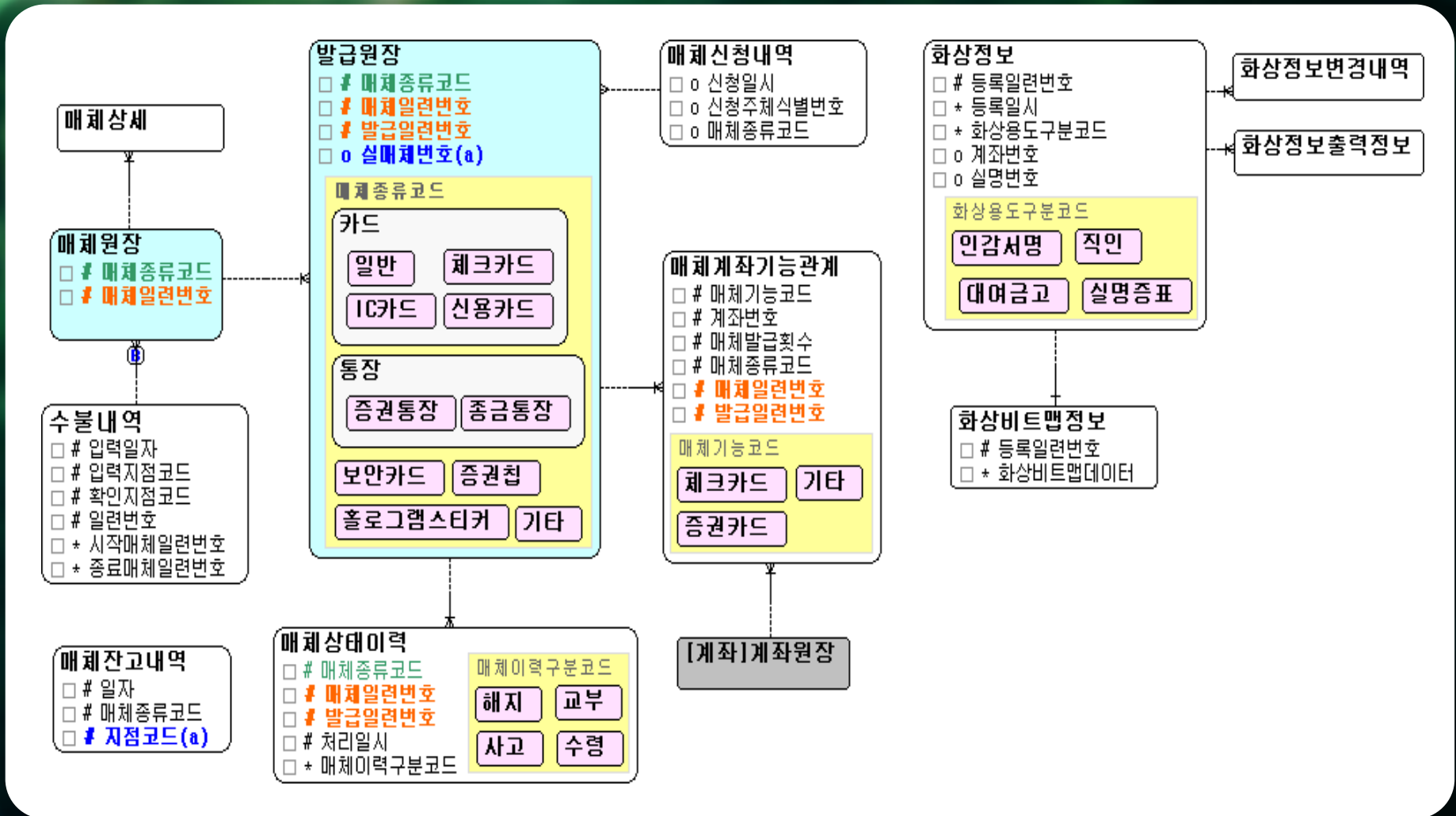


개괄 데이터 모델



개념 데이터 모델

개념데이터 모델은 비즈니스를 빠르게 파악할 수 있어야 한다.



논리데이터모델

논리 데이터 모델은 상세한 비즈니스 규칙이 담겨 있어야 한다.

- 고객(구)**
- # 고객번호
 - * 고객명
 - * 주민번호
 - o 여권번호
 - o 전식별번호
 - * 우선연락방법
 - o 거주지우편번호
 - o 거주지지역번호
 - o 거주지지역주소
 - o 거주지상세주소
 - * 대표전화지역번호
 - * 대표전화국번
 - * 대표전화상세번호
 - * 이동전화번호
 - o 이메일주소
 - * 산업분류코드
 - o 등록경로구분코드
 - o 생년월일/창립일
 - o 양력음력구분코드
 - o 결혼기념일/노조창립일
 - * 고객유형
 - o 대표자주민번호
 - o 대표자성명
 - o 대표자연락처
 - o 법인규모
 - o 업종
 - o 업태
 - o 기업공개여부
 - o 직장명
 - o 근무부서명
 - o 입사일
 - o 대표전화번호
 - o 직장내선번호
 - o 직장팩스번호

- 산업분류**
- # 분류코드
 - * 분류명

- 재무정보**
- * 고객번호(FK)

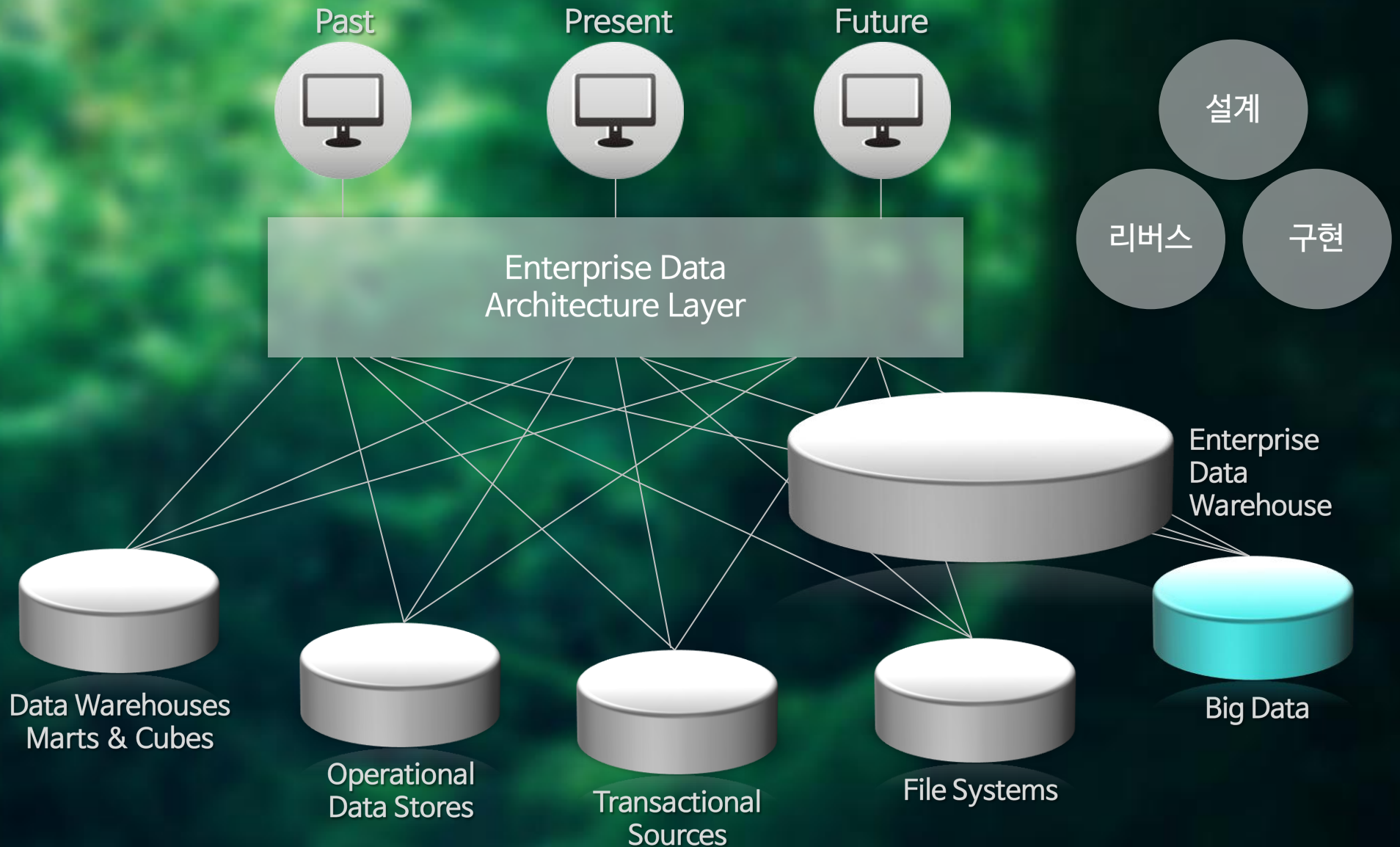
- 가입계약**
- # 계약번호
 - * 계약일
 - * 고객번호(FK)



직접유착

service account

메타 데이터를 활용한 전사 구조 Single View



Master Data Management(MDM)

MDM is for list(like Customer, Product)

Key aspects for a successful MDM :

- ✓ Agree on the **Systems of Records**
- ✓ Define **Data Stewards**
- ✓ Adoption of MDM data(integrate/ sync with dependent systems)
- ✓ Ability to identify and merge duplicates
- ✓ Ability to fix(case sensitivity, renames)
- ✓ Add versioning(type2/ type3)
- ✓ Hierarchies
- ✓ Reporting

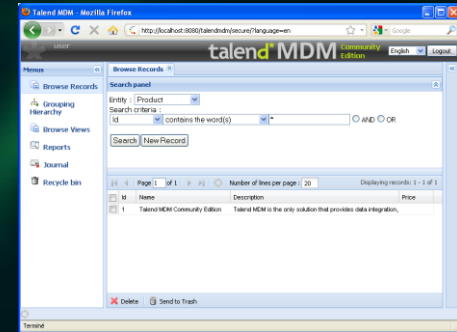
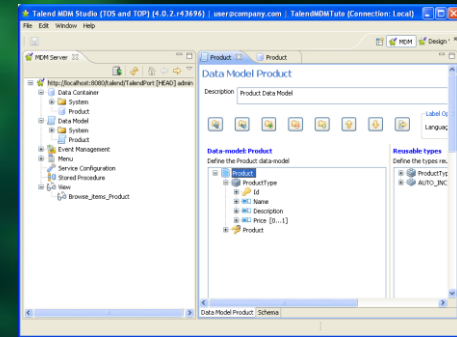


자신에 맞는 MDM 전략이 필요

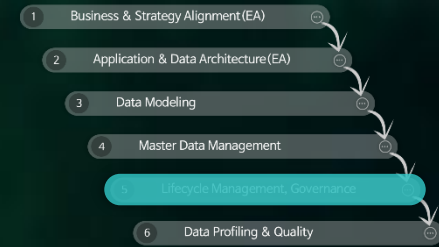
INHOUSE

PACKAGE

META SOLUTION



Lifecycle Management, Governance



Lifecycle Management

- ✓ Defines the business processes linked to “Data Entity” at all phases Creation, Consumption and Archival
- ✓ What is the impact to data integrity; for example in a SOA based environment System A would rely on System B for details of a related entity; if System B archives the entity, the business users might have an impact.

Governance

- ✓ Identify data stewards
- ✓ Establish guidelines for process, documentation, permissions & communications.
- ✓ Data stewards should work with EA to ensure alignment

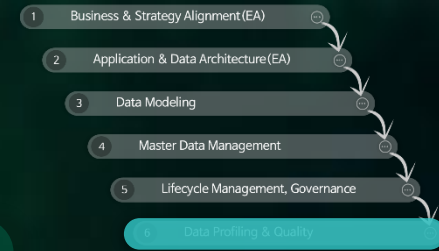
Impact & Lineage Analysis



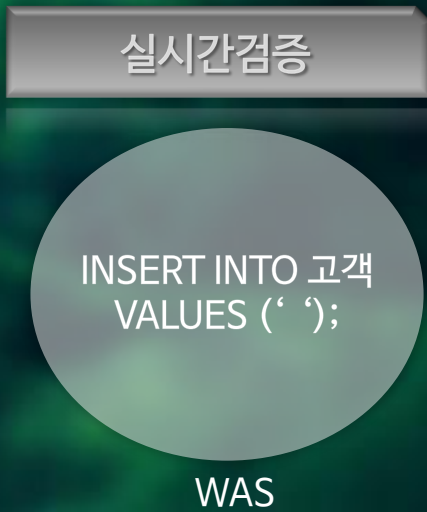
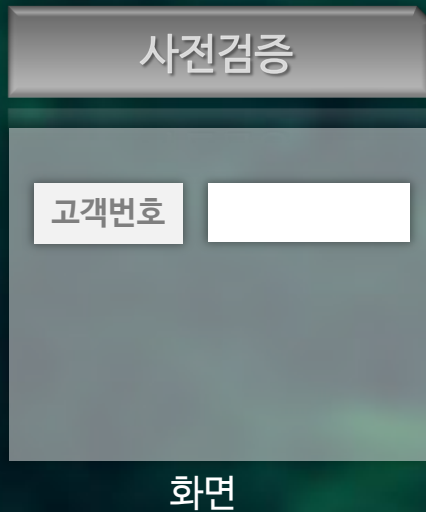
Data Profiling, Data Quality

Data Profiling

- ✓ A mature source should be profiled and this sample can then be used as a basis to detect bad data before it gets reported in dashboards.
- ✓ Quality issues should be proactively be emailed and reviewed by appropriate analyst who can fix the same.
- ✓ Data correction can also be automated to reduce the manual overhead.



입체적인 데이터 품질 관리



Enterprise Information Management (EIM) FRAMEWORK



Thank you!