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Our promise to you

Agility and Ingenuity Together

Bringing Siemens the power of **true**
enterprise cloud to enable vital standardisation and
flexibility, continuous innovation and absolute security

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Agility and Ingenuity Together

SHERPA#2 Architecture for Siemens RFI

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Oracle Architectural Principles @ Siemens

Design Principles

Operational Simplicity
Keep architecture simple. If still complex, simplify again. Complex solutions tend to be inflexible, non-agile, non-innovative and operationally failing

Hybrid Solution
Solution to support a mix of Oracle region and at Siemens deployment that integrates with Siemens on-premise solutions and third-party services.

Configuration not Customization
Configure and extend processes and functions to accommodate business specific requirements

High Availability for Business Continuity
Architect for availability, prepare for disaster, leverage Cloud's built-in resilience.

Legal and Security Compliance
Consider required compliance requirements, and existing policies from initial design phase.

Deployment Principles

Automation
Strive to automate production processes from very beginning, for example via seeded features or 'infrastructure as code'.

Separation of Environments
Production environment always separated from test and dev. Clear lifecycle policy should be in place.

API-centric Integration
Strong preference for integration via API (REST) calls over HTTPs - higher level network protocols preferred over lower ones

Data Security
Secure data at rest and in transit. Encryption keys management and governance should be in place from the beginning

Unified Identity Management
All users/identities should be managed in central (optionally federated) identity management system, apply SSO

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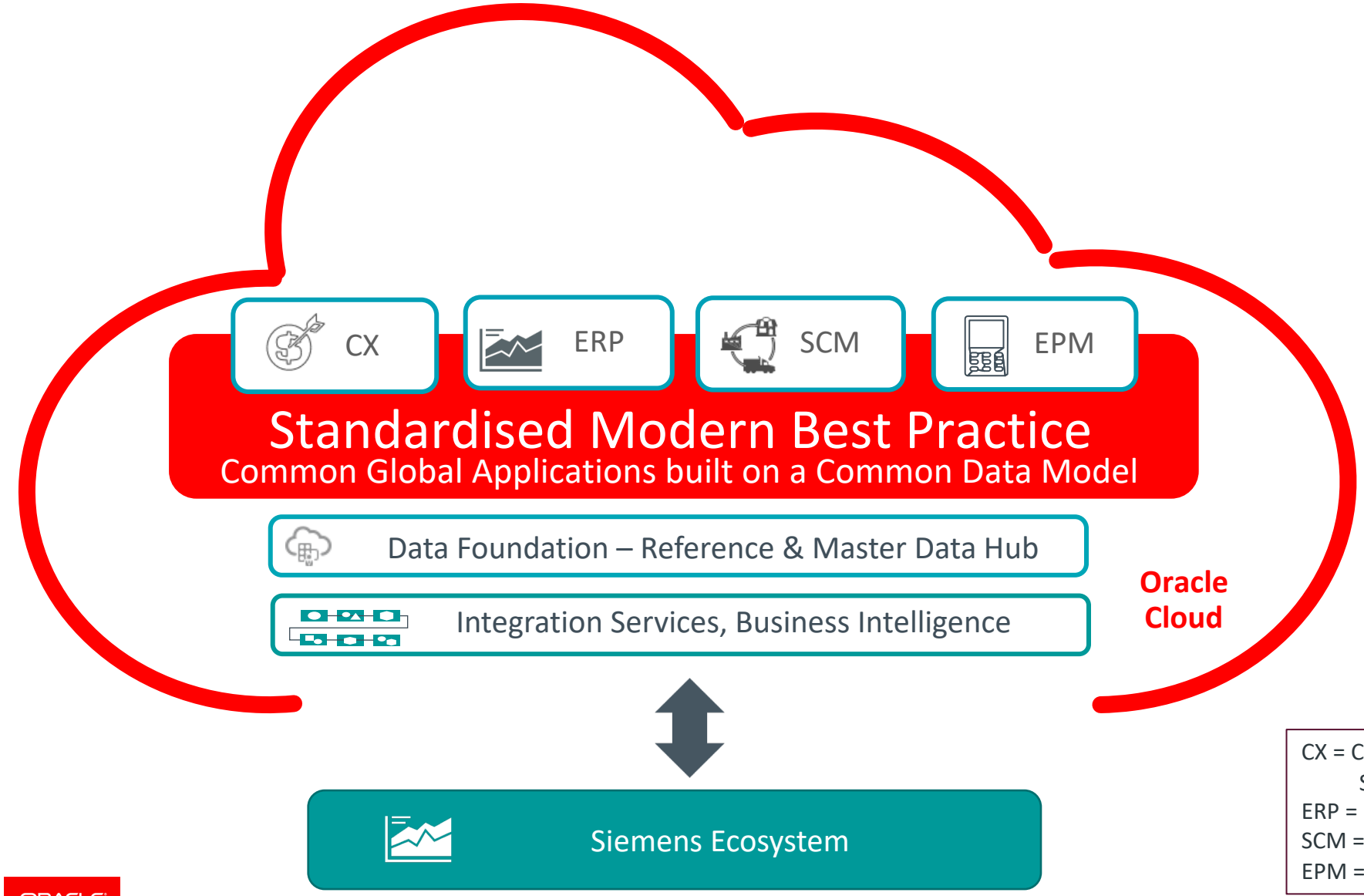
One Global Solution based on a Single Data Model



Security

Global Applications

Integration Extension

CX = Customer Experience = CRM, Marketing, Service, CPQ, Commerce
ERP = Enterprise Ressource Planning
SCM = Supply Chain Management
EPM = Enterprise Performance Management

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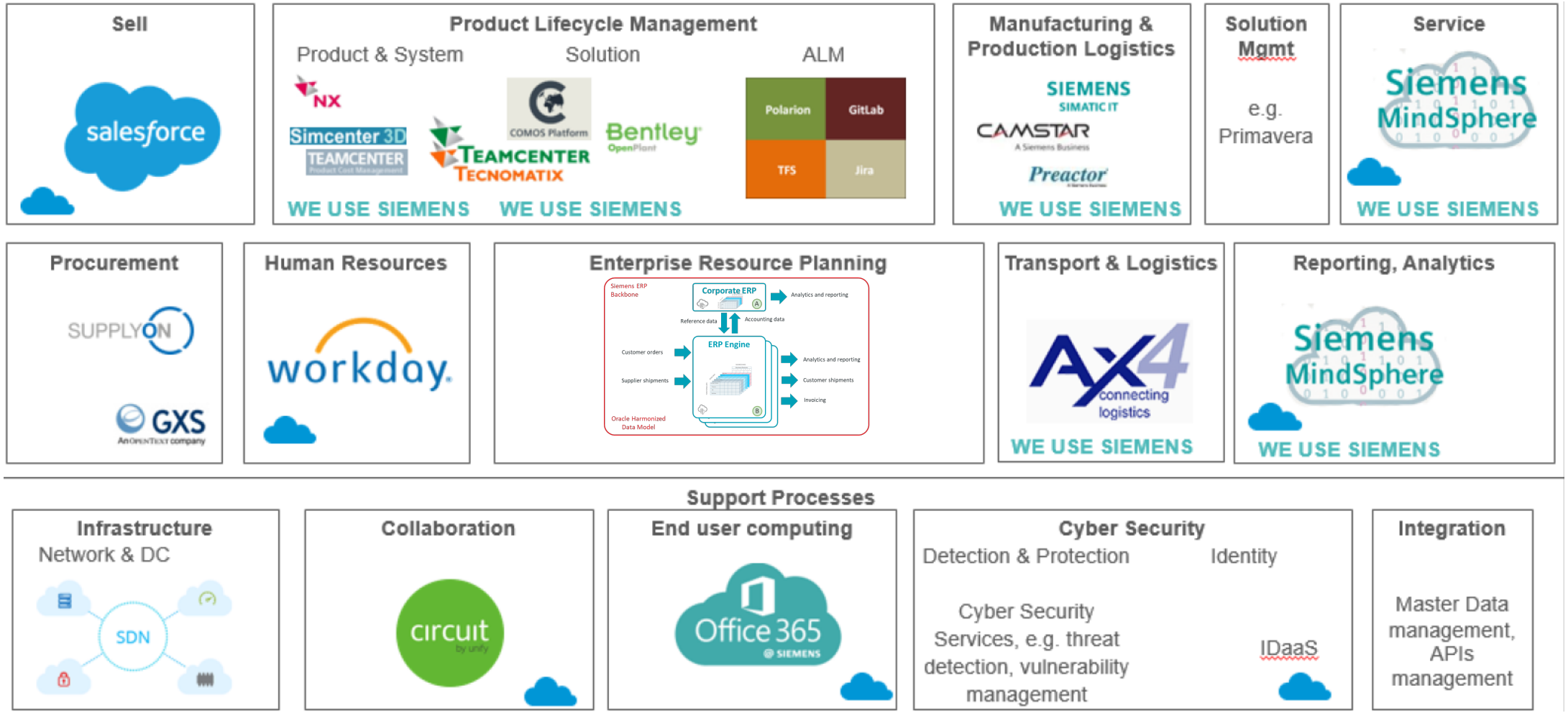
Seamless integration into Siemens Ecosystem



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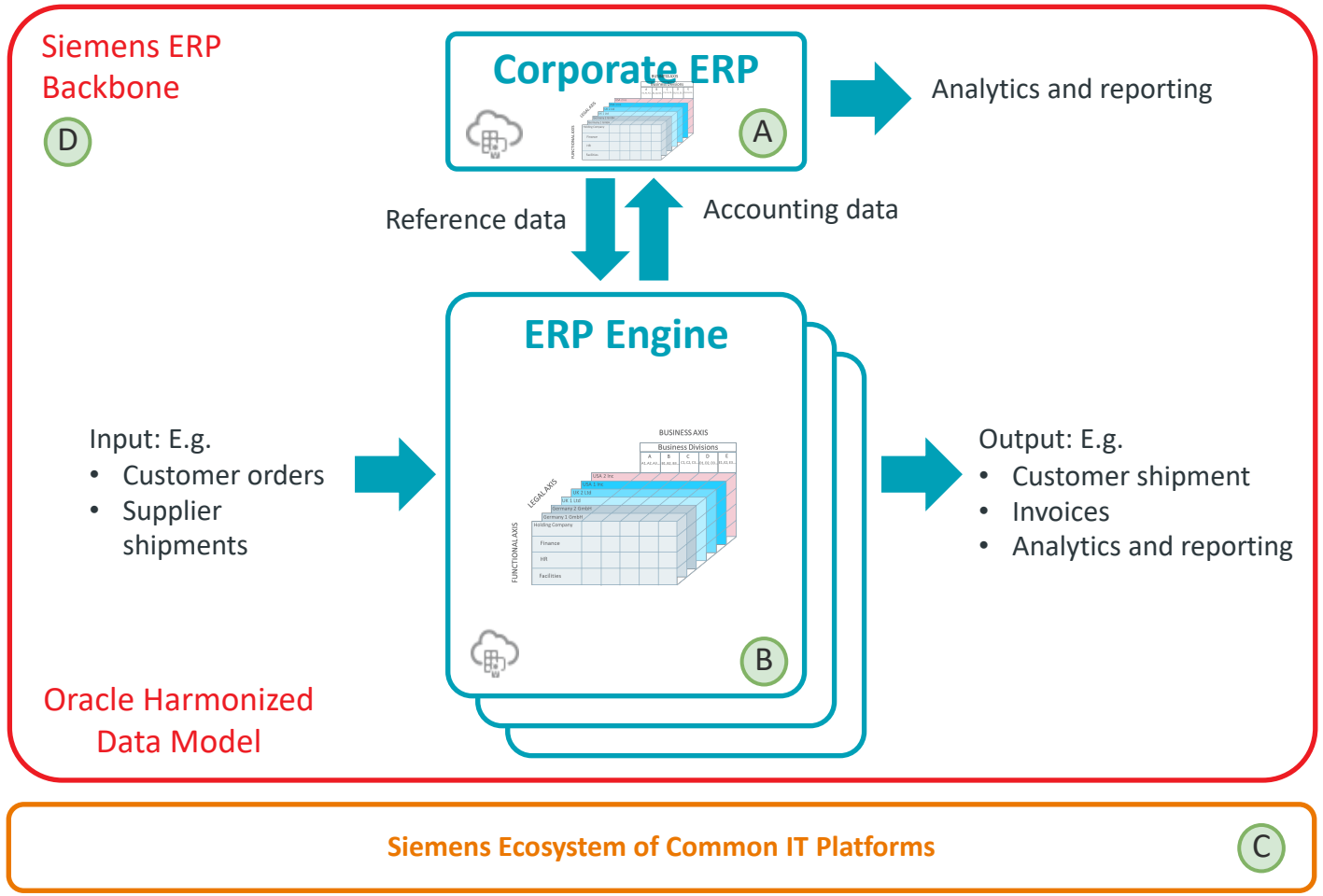
Overview Architecture

Vision: One Global Solution based on a Single Data Model



A Corporate ERP

Corporate capabilities to support enterprise-wide ERP functions of Siemens based on consistent reference and master data.

- Corporate close
- Planning and budgeting
- Performance management
- Master Data and Reference Data
- Integration and orchestration capabilities to ensure consistent overall execution of processes end-to-end.

B ERP Engine

Complete solution for execution of complete business processes beyond single business type.

Few ERPs with common ERP functionalities, which can be extended with divisional processes: Manufacturing, Supply Chain. Each ERP Engine consumes Master Data managed at corporate level and allows analytics and reporting.

C Siemens Ecosystem of Common IT Platforms

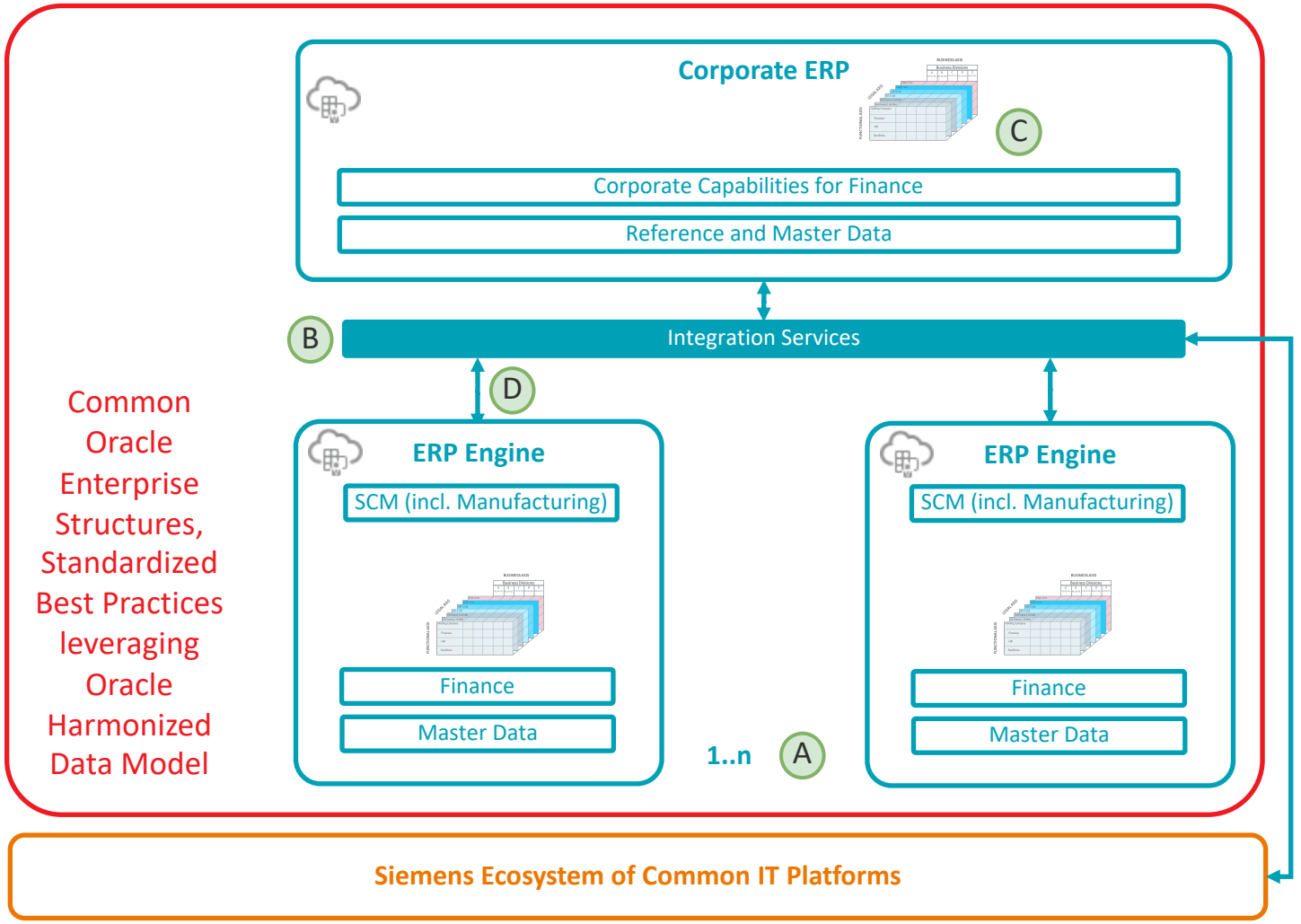
IT services provided by best of breed IT Platforms for SELL, PLM, Manufacturing, etc. as outlined by Siemens.

D Siemens ERP Backbone

In this architecture the Siemens ERP Backbone is the combination of Corporate ERP, a few ERP Engines and the integration capabilities to run processes end-to-end and well integrated with the Siemens Ecosystem.

Integration Architecture

Split into a few ERP Engines to enable manageability and compliance



A Instances of ERP Engines

Siemens is a diversified company that does business in many industries. To enable management of business specific configurations, manageability of the solution and compliance to data residency and localisation requirements, the proposed architecture provides for flexibility in deployment allowing the implementation to be adaptive, and cater to devolved operational requirements. The intention for the architecture is to keep the total number of instances to the minimum possible and retain a process flow within a single instance.

B Integration Services

The architecture will leverage Oracle's Integration and Orchestration capabilities to enable seamless operation across the solution. Accounting data will be provided to the Corporate ERP, reference and master data is synchronised to the ERP Engines, and orders that traverse across multiple ERP Engines must be efficient.

C Global View on Finance

Using Oracle's Finance and Enterprise Performance Management capabilities, the Corporate ERP can create a global view on all Financials for legal, statutory and management reporting

D Reference and Master Data

Efficient management of master and reference data is key.

- Reference Data and Finance Master Data are mastered in the Corporate ERP.
- Product data are managed in ERP Engine.
- Division local suppliers are managed in ERP Engines and corporate and strategic (global) suppliers are managed in Corporate ERP, which provides a view on all Suppliers.
- The Corporate ERP needs a view on Customer Data.

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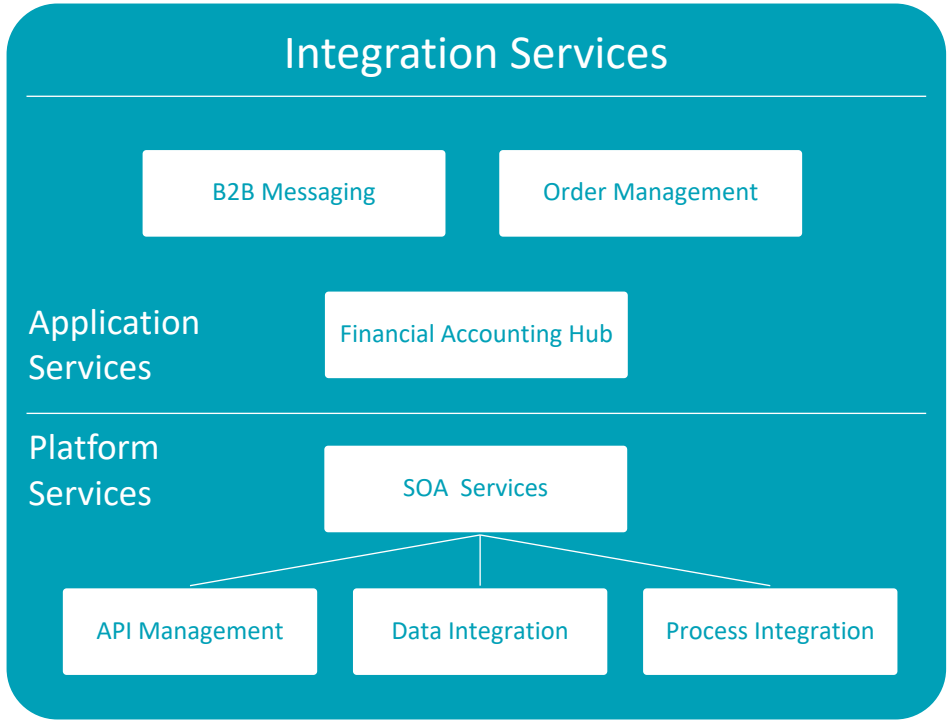
Integration Components



Integration Platform Services

The Integration Services component is the technological backbone for the integration between the components of our solution. Provides a complete API Lifecycle Management solution that supports agile API development. This component will take care of things like Error Handling and Automatic Message Retries, secure file exchange and management as well as B2B message distribution.

- Pre-built integrations and adapters to rapidly integrate systems.
- Machine learning recommendations on integration, data mapping to reduce workload.
- Create business processes like approval flows quickly with pre-built process recipes.

B2B Messaging

Oracle B2B is an e-commerce gateway that enables the secure and reliable exchange of business documents between an enterprise and its trading partners. Oracle B2B supports business-to-business document standards, security, transports, messaging services, and trading partner management.

- standardized external interface
- External message tracking and monitoring

Order Management

Manage orders from all your channels to get a single view of your customer. Orchestrate all your order to cash processes and proactively resolve exceptions

- Automate, monitor, and manage the process from order capture to settlement to post-sales care.
- Consolidate quotes and orders from all your channels and existing systems.
- Enable drop-ships, back-to-back, capable-to-promise, configure-to-order in a configurable manner.

Financial Accounting Hub

This component brings all the information together into your primary general ledger for a single source of truth that consistently enforces accounting policies, and achieves complete and timely insight.

- Centralize accounting rules for your subledgers to ensure accounting policies are consistently applied.
- Enhance auditability with centralized accounting, and streamline reconciliations with supporting references that tie to source systems.

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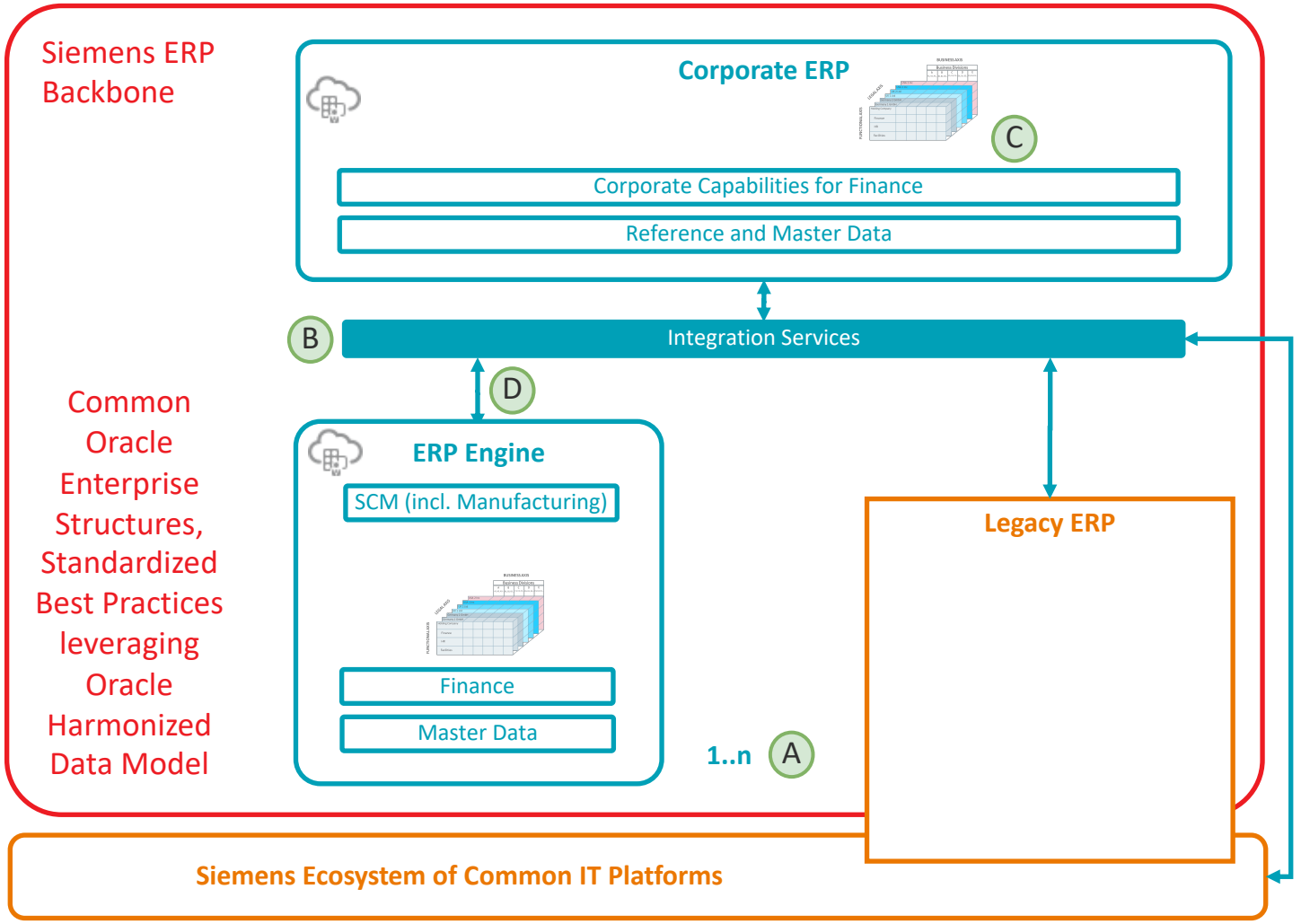
Transition State

Designed to work with multiple ERP Engines, Oracle and non Oracle



A Hybrid Architecture

During transformation or as a result from a Siemens acquisition, ERP Engines can be legacy (on premises) ERP systems.

B Flexible Integration and Orchestration Capabilities

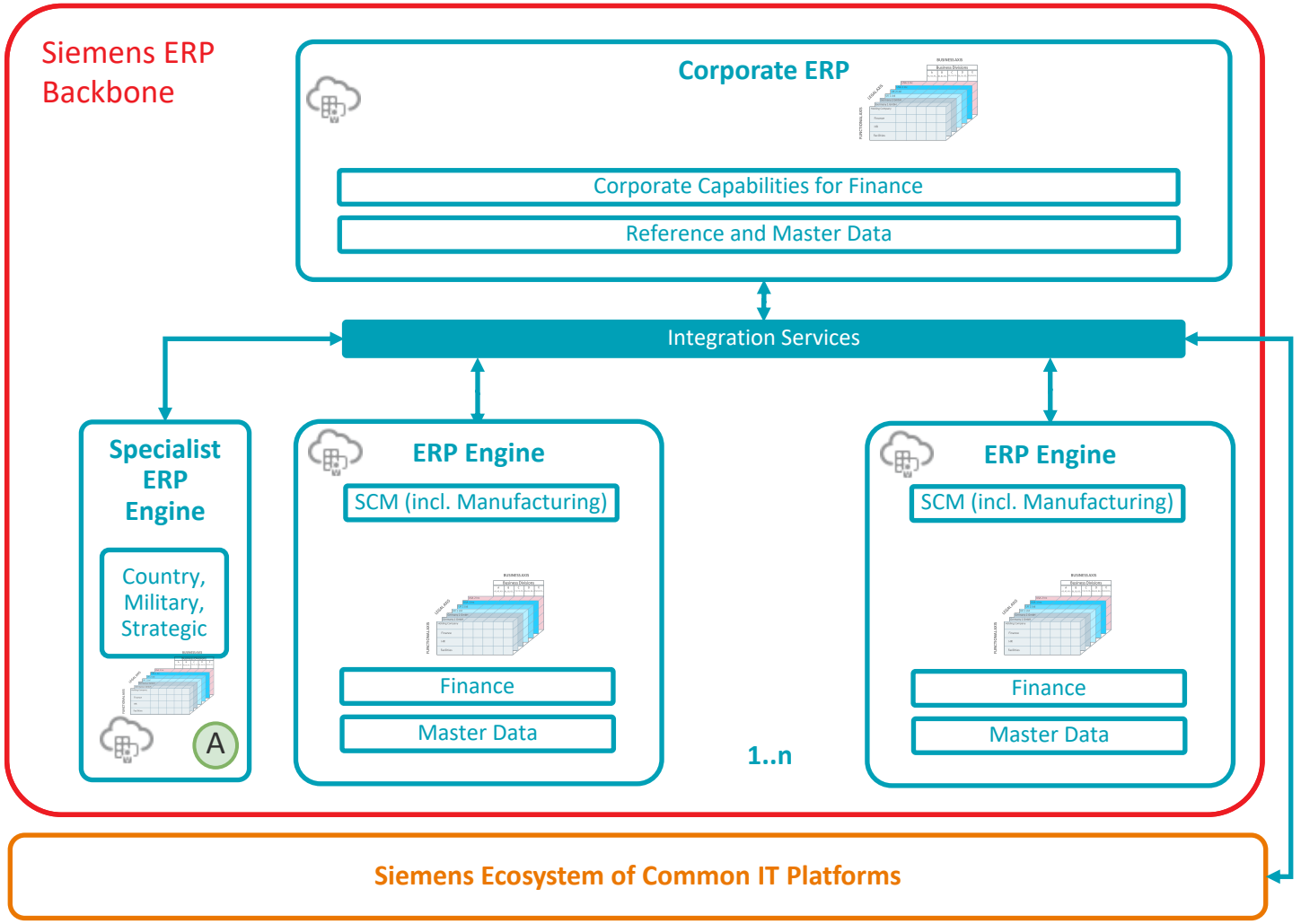
With Integration Cloud, Oracle provides capabilities to exchange data with SAP ERP systems (and the complete Siemens Ecosystem).

C Consistent View to Financial Data

Using Oracle Financial Accounting Hub, Oracle can create a consistent view on Financial data across multiple ERP source systems.

Flexibility for Special Cases

Implementation: A Specialist ERP Engine can be created to keep data or processes separate.

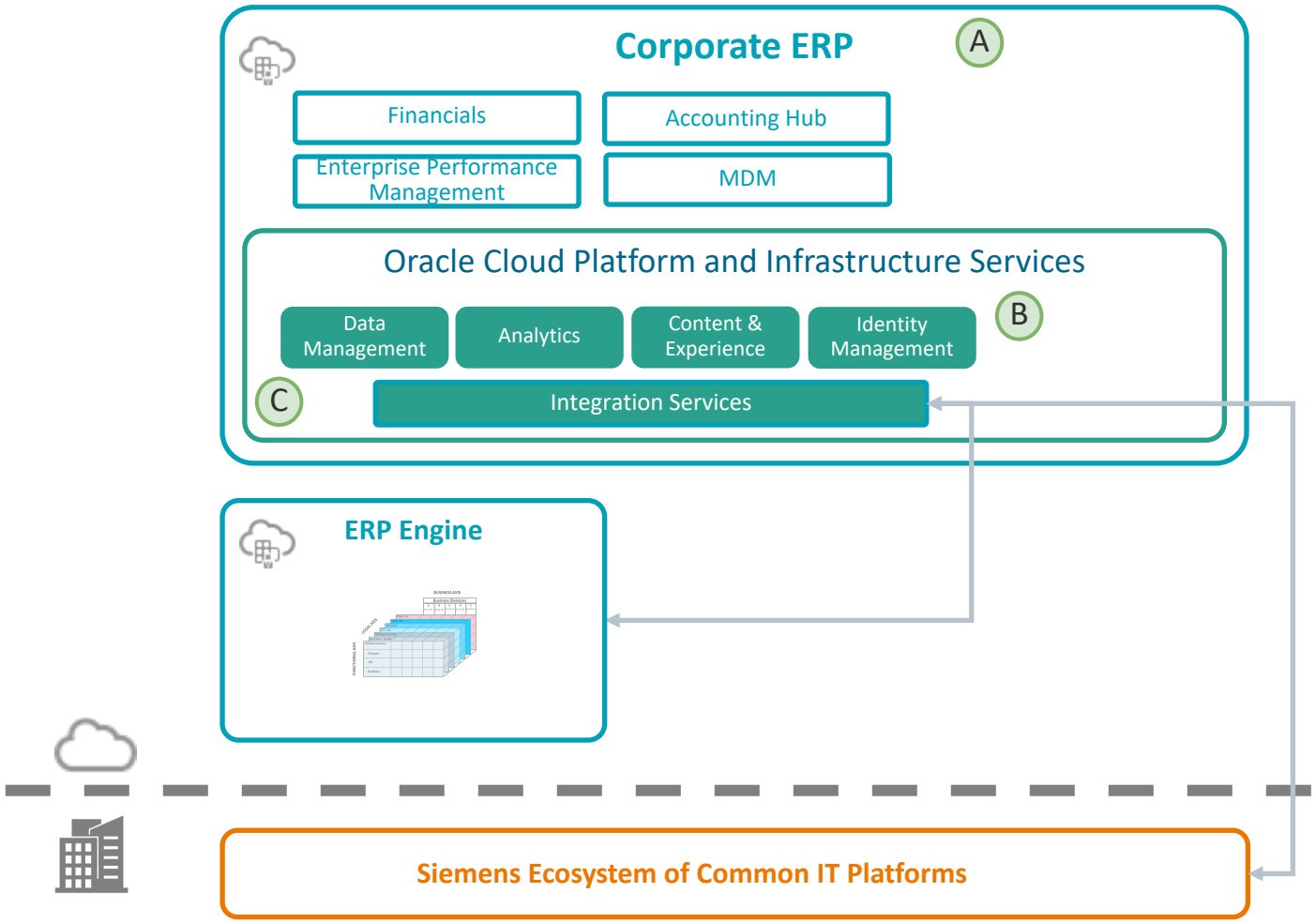


A **Specialist ERP Engine**

Due to data residency and specific business or strategic considerations, Siemens may want to keep certain ERP processes and data separate. Therefore additional **Specialist ERP Engines** can be created to host e.g. business locally within China or business with special security requirements separately. Where possible, the same ERP processes will be deployed. This is driven by business requirements rather then technology.

Corporate ERP

Designed to work with multiple ERP Engines, Oracle and non Oracle



A Applications

Corporate ERP applications support enterprise-wide ERP functions of Siemens based on consistent reference and master data: Corporate close, Planning and budgeting, Performance management, Master Data and Reference Data

See the full set of applications in 'Corporate ERP - Applications Architecture' slide

B Platform Services

Applications functionalities are supported and extended with platform capabilities. Platform services will include capabilities such as data management, analytics, security

See the full set of platform services in 'Platform Services' slide

C Integration

Integration layer (platform services) is component of the Corporate ERP and will enable integration with ERP Engines. Integration services enable seamless operation across the Oracle components and also efficient integration for the Siemens ecosystem.

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Master Data Ownership – flexible and evolving

Entities mastered by Oracle ERP

- Finance
- Pricing
- Logistics
- Assets

Mastered by Siemens systems

- Customer
- Employee
- Partner
- Supplier
- Project
- Product

- Oracle MDM has full coverage of all data entities in scope, and each can act as either Master, Slave or Hybrid
- The Oracle solution a full set of MDM capabilities (profile, cleanse, standardize, enrich, match and restructure)
- Siemens can choose where the master is defined, and can evolve from one model to another
- This is our current understanding of Siemens MDM strategy but Oracle is ready to take master data responsibility for **all entities**.

Full Oracle MDM Capability

- Customer
- Employee
- Partner
- Supplier
- Project
- Product
- Finance
- Pricing
- Logistics
- Assets

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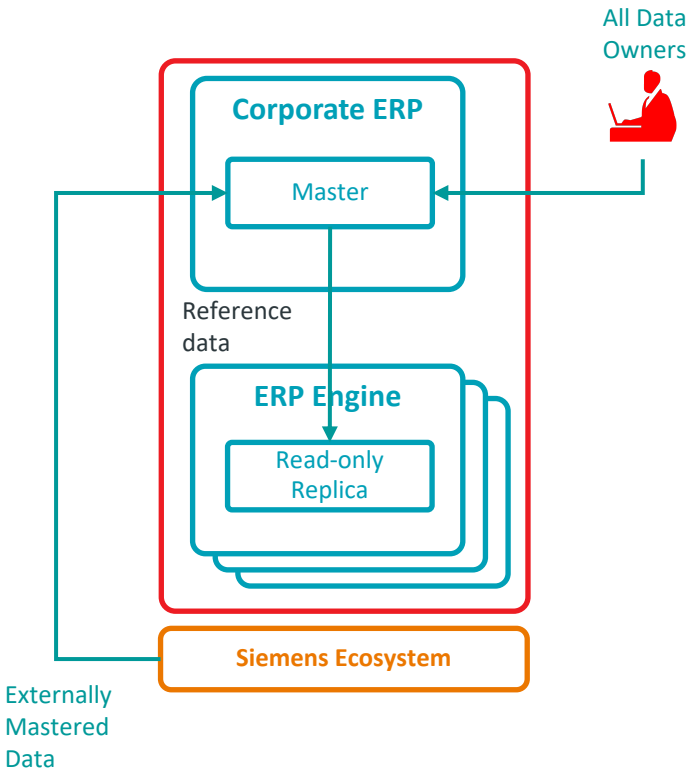
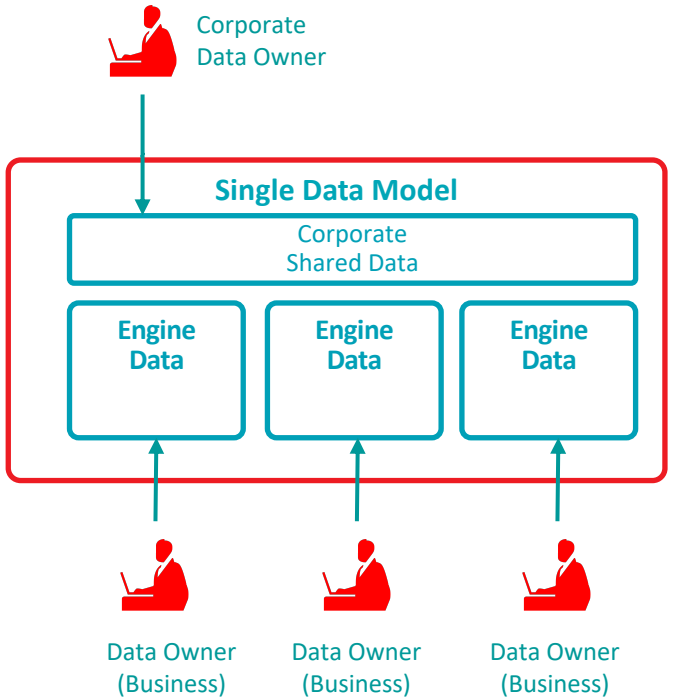
Reference Data Architecture Overview

Global Architecture enabling local control

Global Deployment View



Local Governance



Data Architecture Principles

- Single definitive Data master
- One place to maintain data
- Data replicated to read-only copies as needed
- Corporate data managed by central governance
- Specific datasets and subsets delegated to line of businesses

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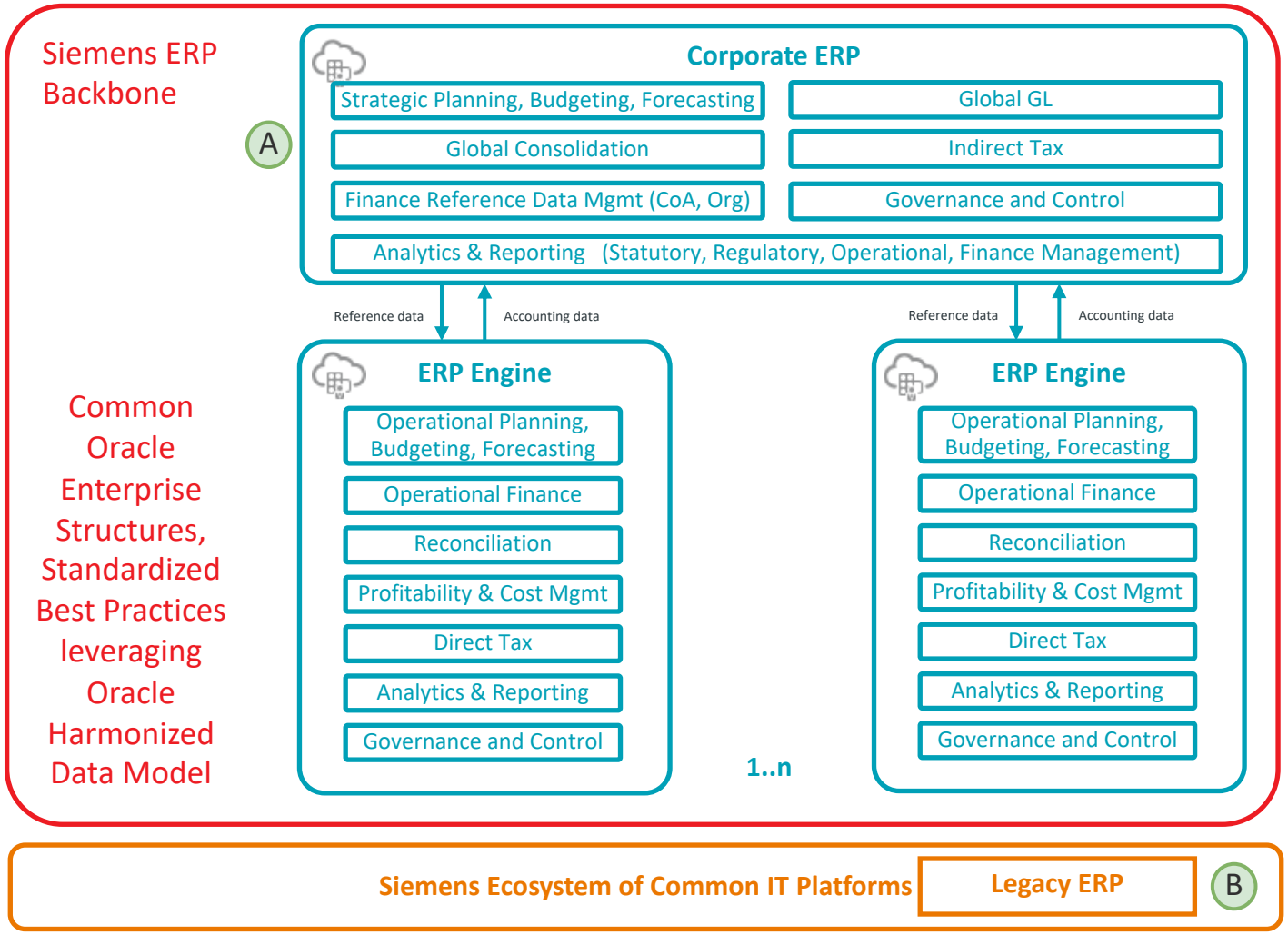
Financial Modules

Implementation: Operational view on financial data



A **Financial Model**

- Operational view on financial data is available at each ERP Engine
- A consolidated view on financial data is available on corporate ERP with access to supporting information.

B **Legacy ERP**

Aggregate accounting data from legacy ERP systems.

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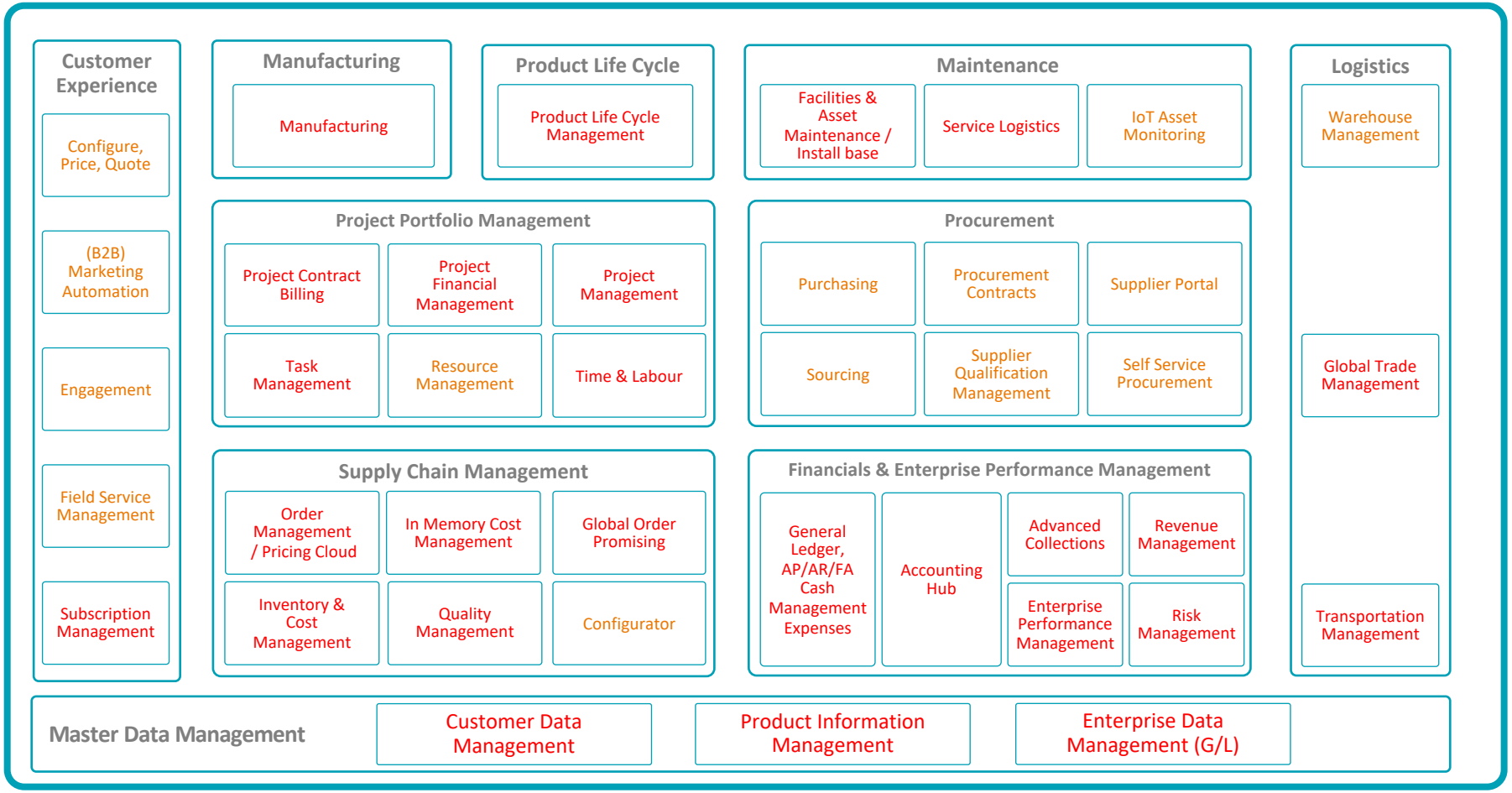
Oracle Solution Footprint for Siemens

Oracle Applications



Key Mandatory Optional – Classification derived from Siemens Annex_CH_6_Functional_Catalogue_final.xlsx

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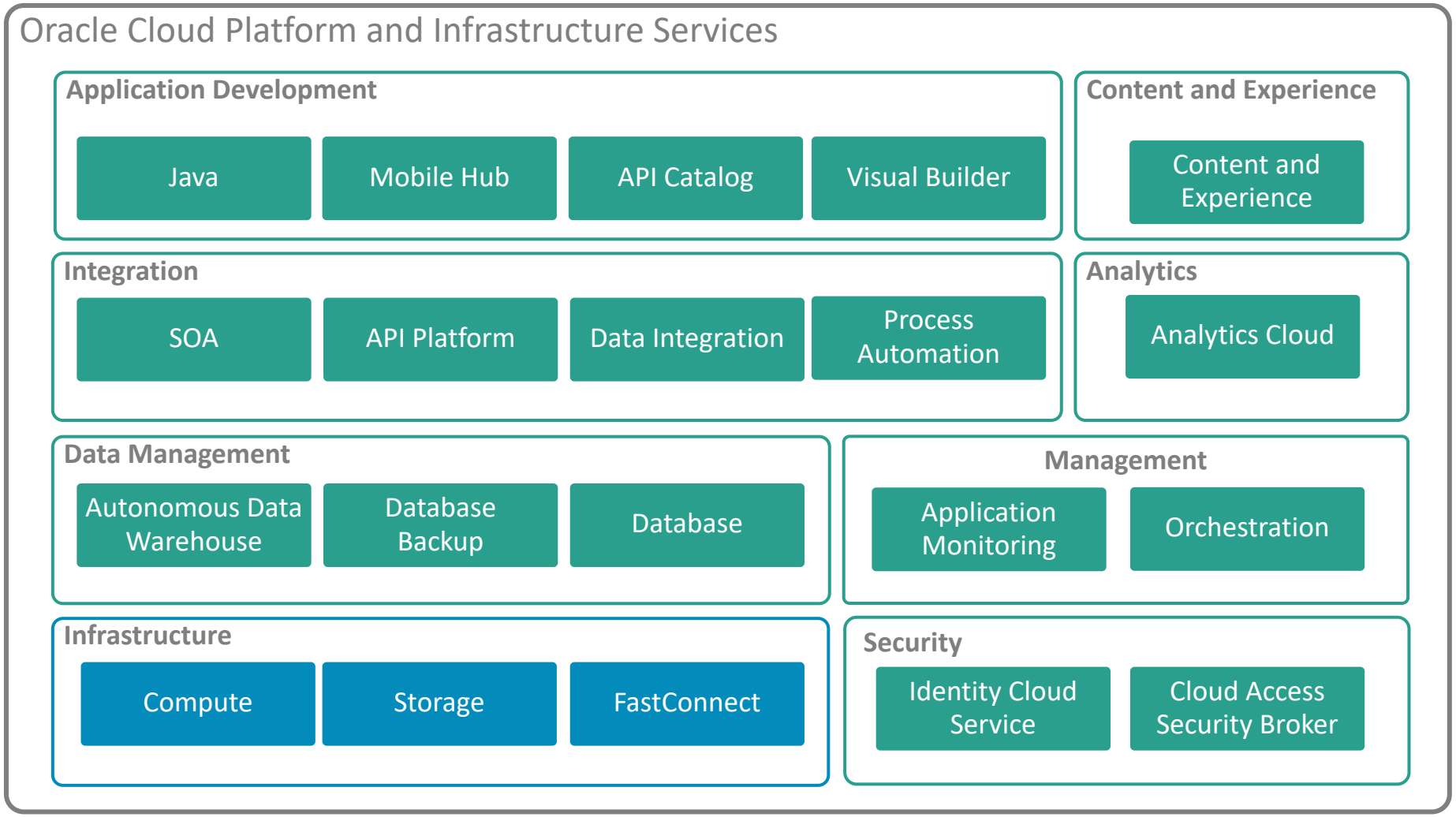
Oracle Solution Footprint for Siemens

Oracle Platform and Infrastructure



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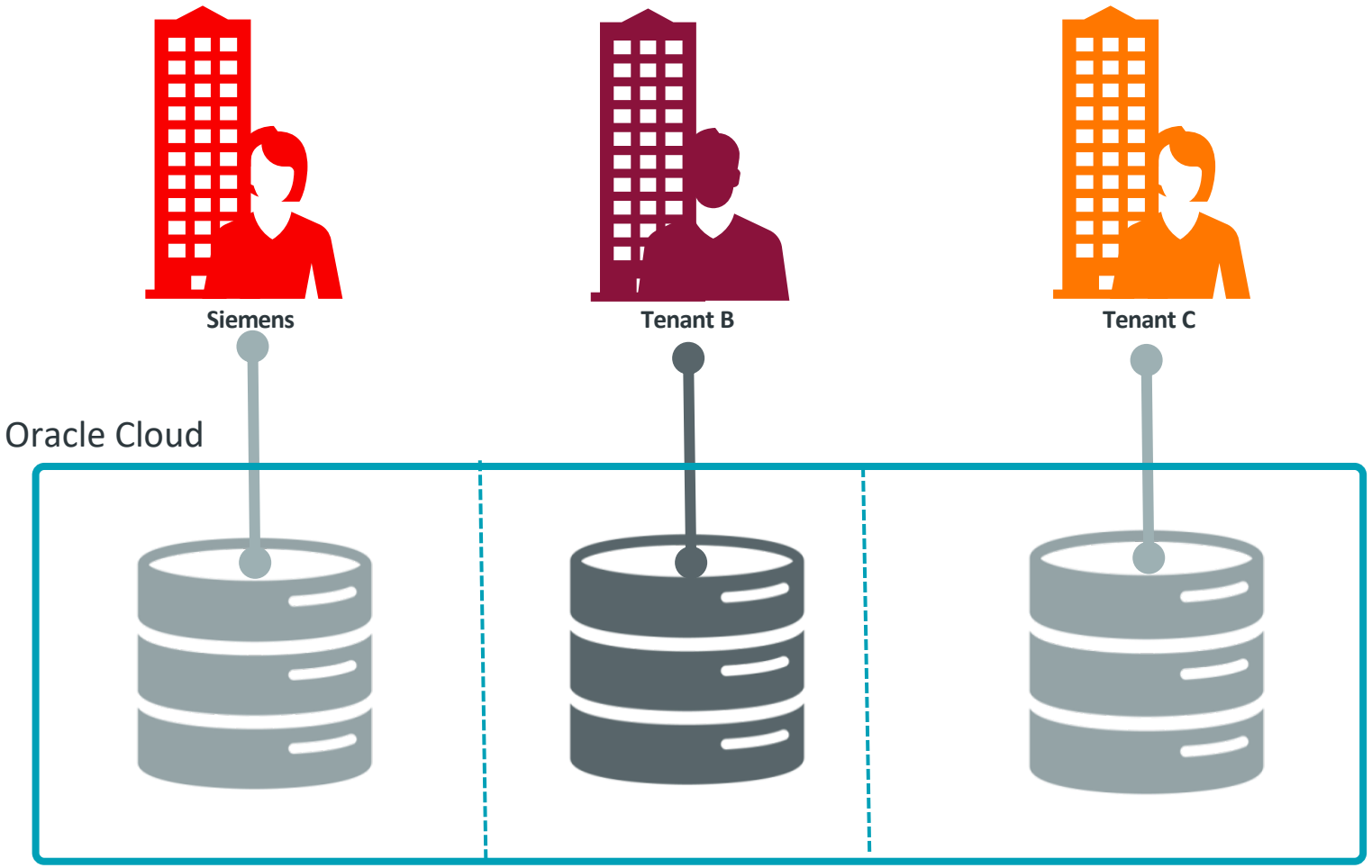
Isolated Tenancy Model for SaaS



Isolated Tenancy

- Dedicated databases
- Fine grained authorization
- Secure database schema model
- Secure virtualization model
- Clear separation of duties for all database access
- Data is encrypted at every level
- No access to data for Oracle staff without Siemens digital permission

SECURITY

PERFORMANCE

FLEXIBILITY

Driving towards your success with agility and ingenuity, **together**

Working together, we will support your transformation through our platform with a rolling roadmap of continuous innovation, delivery and change.