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Version 9.1 Enterprise Edition

Module 22A
Phase D Technology Architecture – Catalogs, Matrices and Diagrams

THE Open GROUP

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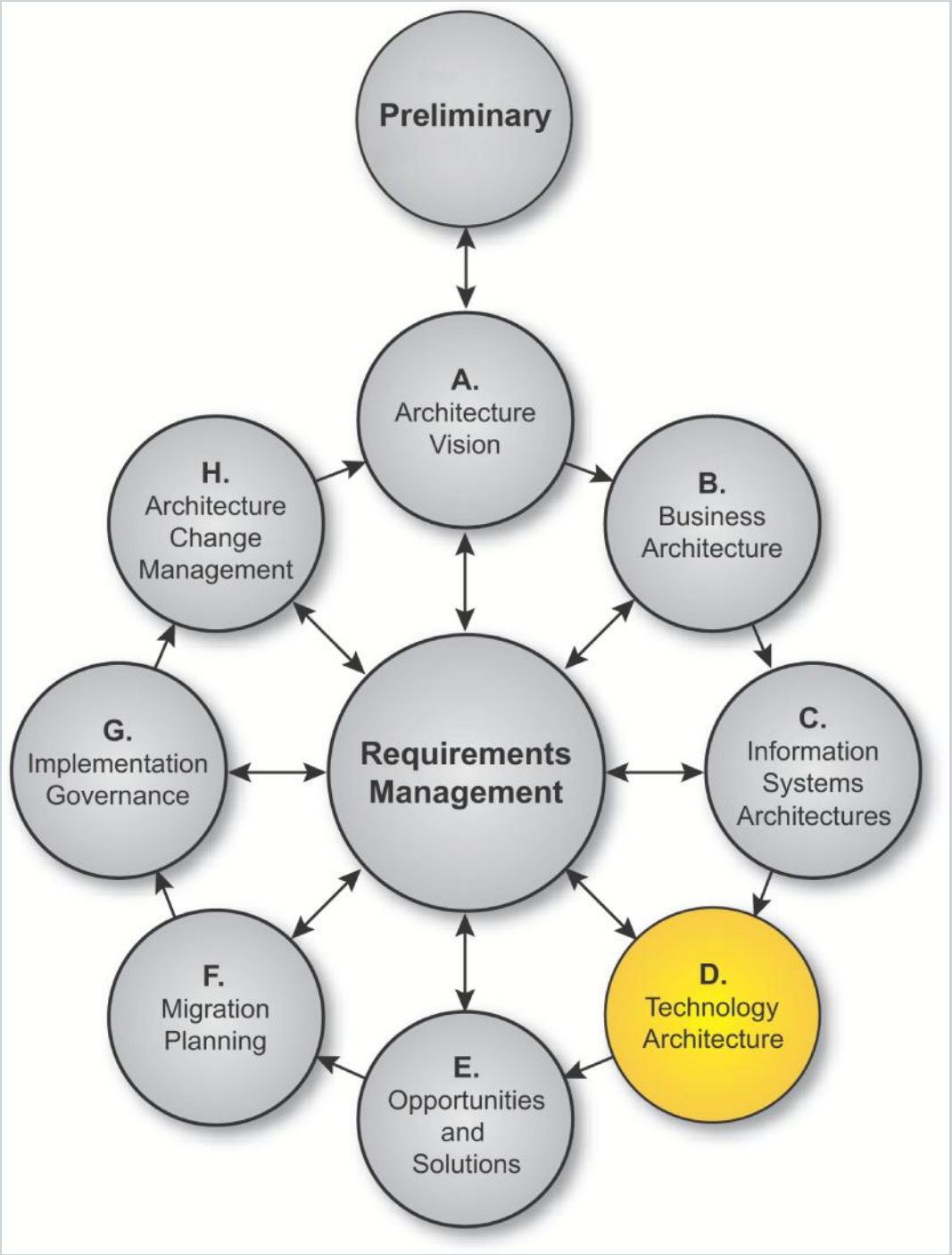
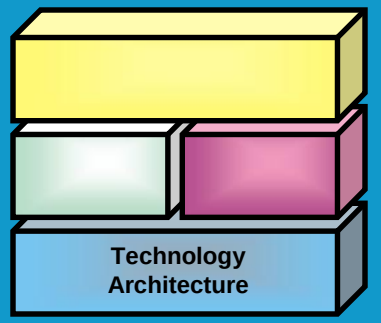


Phase D: Technology Architecture – Catalogs, Matrices and Diagrams



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Module Objectives

The objectives of this module are to understand:

- The Catalogs, Matrices and Diagrams of Phase D, Technology Architecture
- What they consist of
- How they are used

Preliminary Phase
- Principles catalog

Phase A, Architecture Vision
- Stakeholder Map Matrix
- Solution Concept diagram
- Value Chain diagram

Requirements Management
- Requirements catalog

Phase B, Business Architecture
- Organization/Actor catalog
- Driver/Goal/Objective catalog
- Role catalog
- Business Service/Function catalog
- Location catalog
- Process/Event/Control/Product catalog
- Contract/Measure catalog
- Business Interaction matrix
- Actor/Role matrix
- Business Footprint diagram
- Business Service/Information diagram
- Functional Decomposition diagram
- Product Lifecycle diagram
- Goal/Objective/Service diagram
- Business Use-Case diagram
- Organization Decomposition diagram
- Process Flow diagram
- Event diagram

Phase C, Data Architecture
- Data Entity/Data Component catalog
- Data Entity/Business Function matrix
- Application/Data matrix
- Logical Data diagram
- Data Dissemination diagram
- Data Security diagram
- Class Hierarchy diagram
- Data Migration diagram
- Data Lifecycle diagram

Phase C, Application Architecture
- Application Portfolio catalog
- Interface catalog
- Application/Organization matrix
- Role/Application matrix
- Application/Function matrix
- Application Interaction matrix
- Application Communication diagram
- Application and User Location diagram
- Application Use-Case diagram
- Enterprise Manageability diagram
- Process/Application Realization diagram
- Software Engineering diagram
- Application Migration diagram
- Software Distribution diagram

Phase D, Technology Architecture
- Technology Standards catalog
- Technology Portfolio catalog
- System/Technology matrix
- Environments and Locations diagram
- Platform Decomposition diagram
- Processing diagram
- Networked Computing/Hardware diagram
- Communications Engineering diagram

Phase E. Opportunities & Solutions
- Project Context diagram
- Benefits diagram

TOGAF 9 Artifacts

Catalogs, Matrices and Diagrams

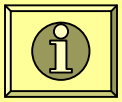
Catalogs

- Technology Standards catalog
- Technology Portfolio catalog

- **Matrices**
- Application/Technology matrix

Diagrams

- Environments and Locations diagram
- Platform Decomposition diagram
- Processing diagram
- Networked Computing/Hardware diagram
- Communications Engineering diagram



The exact format of the catalogs, matrices and diagrams will depend on the tools used

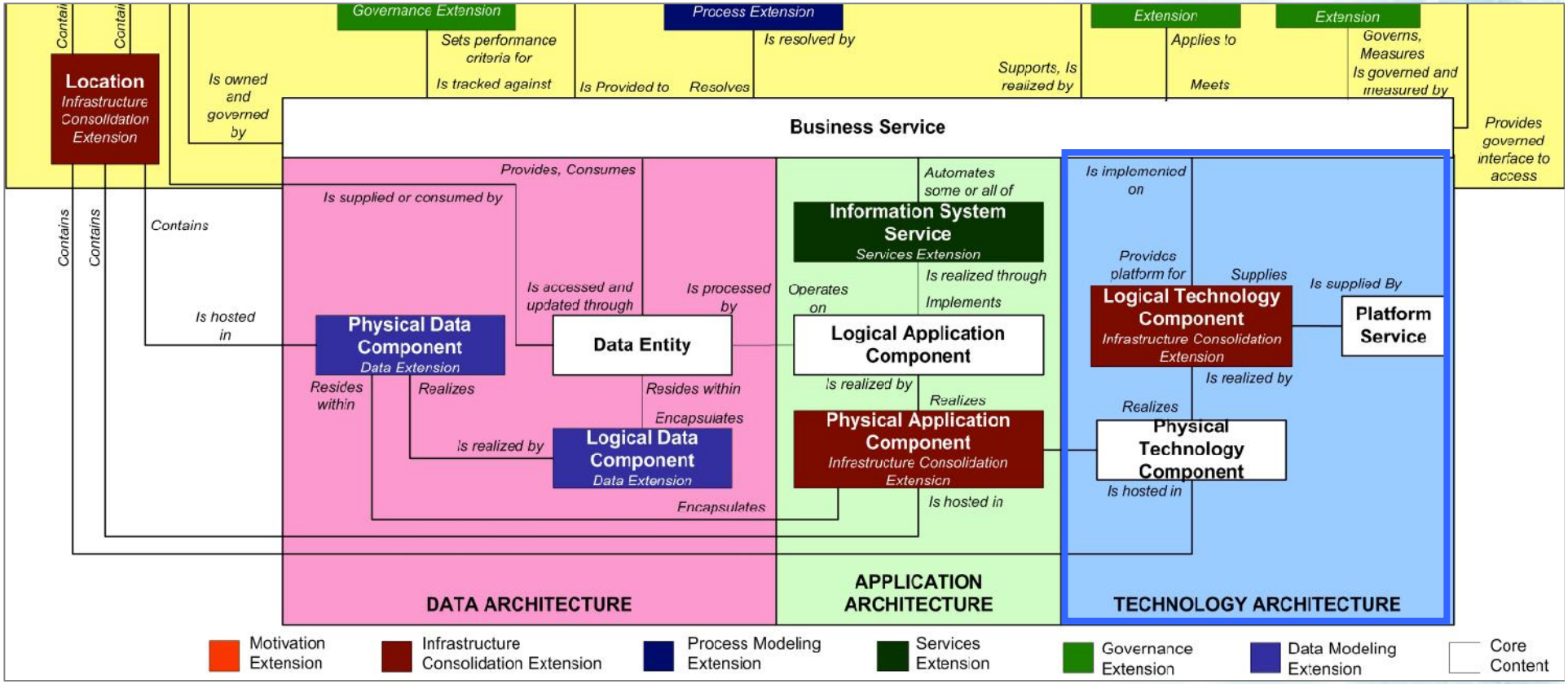
Catalogs

- Technology Standards catalog
- Technology Portfolio catalog

Catalogs

Catalog	Purpose
Technology Standards Catalog	This documents the agreed standards for technology across the enterprise covering technologies, and versions, the technology lifecycles, and the refresh cycles for the technology. It can be implemented as an extension to the Technology Portfolio Catalog and thus will share the same metamodel entities: •Platform Service, Logical Technology Component, Physical Technology Component
Technology Portfolio Catalog	This catalog identifies and list all the technology in use across the enterprise, including hardware, infrastructure software, and application software. An agreed technology portfolio supports lifecycle management of technology products and versions and also forms the basis for definition of technology standards It contains the following metamodel entities: •Platform Service, Logical Technology Component, Physical Technology Component

Exercise



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Matrices

- Application/Technology matrix

Application/Technology Matrix

- The Application/Technology matrix documents the mapping of applications to the technology platform.
- The Application/Technology matrix shows:
  - Logical/Physical Application Components
  - Services, Logical Technology Components, and Physical Technology Components
  - Physical Technology Component *realizes* Physical Application Component relationships

Example Application/Technology Matrix

LOGICAL APPLICATION COMPONENT	PHYSICAL TECHNOLOGY COMPONENT	SERVER ADDRESS	IP ADDRESS
ABM	Web server - node 1	F01ws001@host.com	10.xx.xx.xx
	Web server - node 2	F01ws002@host.com	10.xx.xx.xx
	Web server - node 3	F01ws003@host.com	10.xx.xx.xx
	App server – node 1	F02as001@host.com	10.xx.xx.xx
	App server – node 2	F02as002@host.com	10.xx.xx.xx
	App server – node 3	F02as003@host.com	10.xx.xx.xx
	Database server (production)	F02dbp001@host.com	10.xx.xx.xx
	Database server (stating)	F03dbs001@host.com	10.xx.xx.xx
Load balancer and Dispatcher	Dispatcher server	F03nd001@host.com	242.xx.xx.xx

Example Application/Technology Matrix

TECH FUNCTION	HARDWARE LOGICAL	HARDWARE PHYSICAL	SOFTWARE LOGICAL	SOFTWARE PHYSICAL
Load balancing	▪Name – Balancer ▪Vendor - IBM ▪Server Type – eServer ▪Clustered – No ▪No. of Nodes – N/A ▪Server logical address - d04lb01@host.com ▪Maintenance Window – Sun 0100 to 0300	▪Model/Type – IBM P7xx ▪Serial Number – 1S4568 ▪Processor Type - RISC Power p5 ▪Number of Processors - 8 way ▪Memory - 1GB ▪Hard drive - 40 GB ▪IP - 11.xx.xx.xx	▪Product- IBM Load balance manager ▪Vendor - IBM ▪OS – UNIX	▪SW Components – LB v3.2 (list all the other components of the SW product) ▪AIX 10.2.1 ▪License Type - ▪Enterprise wide license ▪License expiry date - 12/31/2014

Example System/Technology Matrix

APPLICATION COMPONENT	DEPLOYMENT UNIT	TECHNOLOGY COMPONENT
▪Load Balancer	▪Smart dispatch v1.2 (both installation and execution code)	▪Load balancing server (d03lb001@host.com)
▪Commerce pages	▪HTML code ▪Applets ▪JSP	▪Web Server cluster (d03ws001@host.com, d03ws002@host.com, d03ws003@host.com)
▪Commerce Engine	•Order Entry (both installation and execution code) •Shopping Cart (both installation and execution code)	•Application Server (d03as001@host.com, d03as002@host.com)

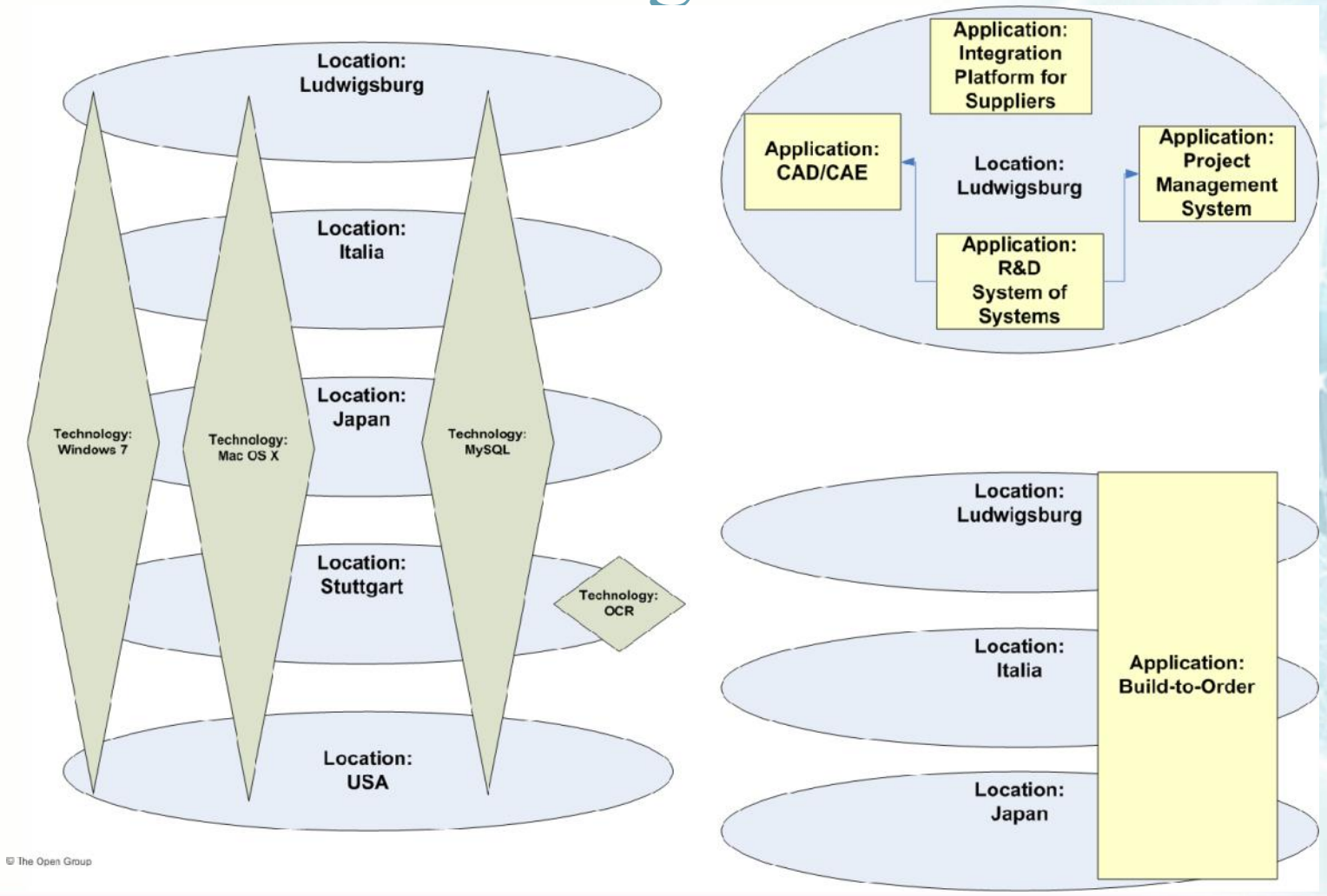
Diagrams

- Environments and Locations diagram
- Platform Decomposition diagram
- Processing diagram
- Networked Computing/Hardware diagram
- Communications Engineering diagram

Environments and Locations Diagram

- Depicts which locations host which applications
- Identifies what technologies and/or applications are used at which locations
- Identifies the locations from which business users typically interact with the applications.
- It should also show the existence and location of different deployment environments
  - including non-production environments, such as development and pre production.

Example Environments and Locations Diagram



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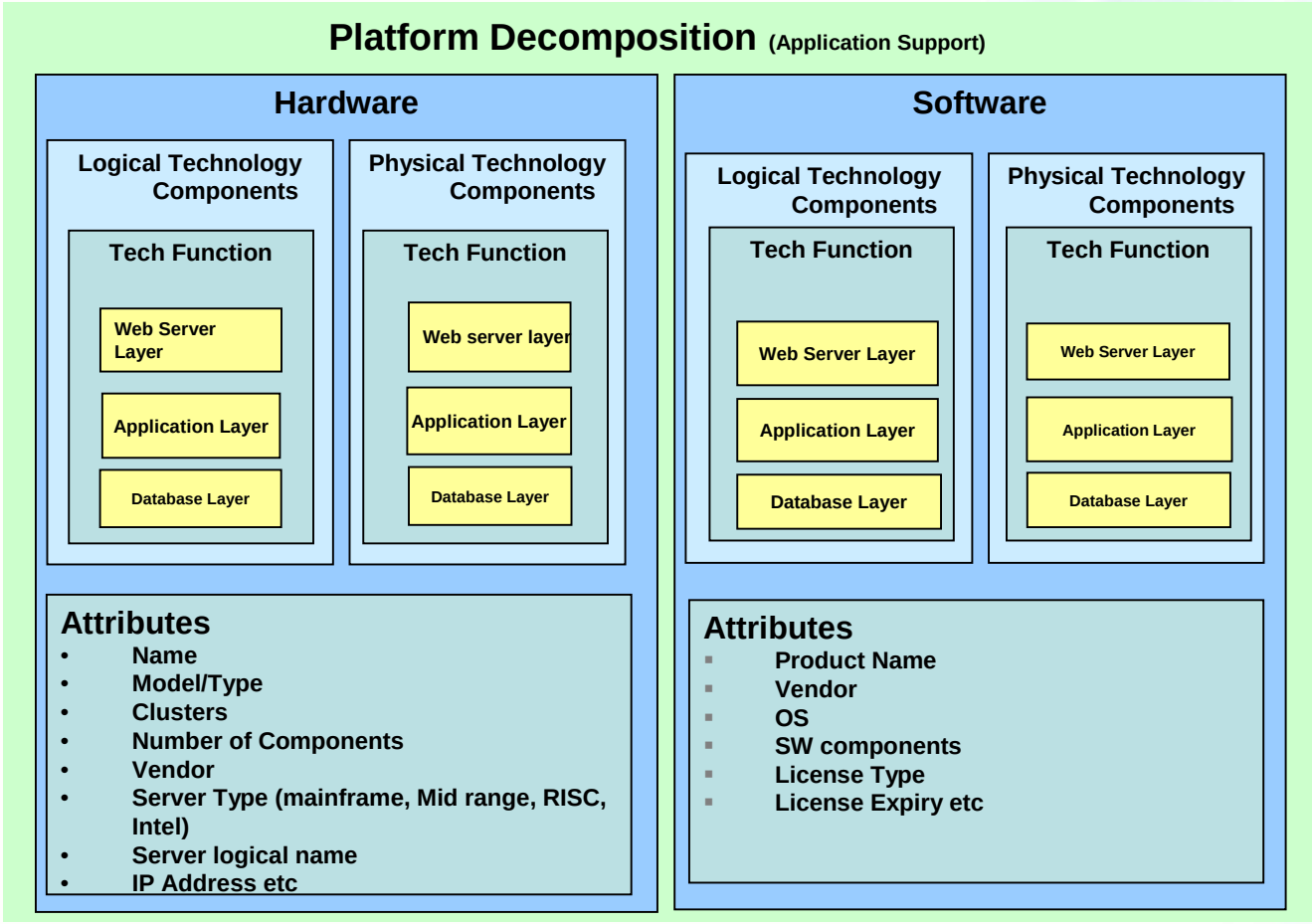
Platform Decomposition Diagram

- The Platform Decomposition diagram depicts the technology platform that supports the operations of the Information Systems Architecture.
- The diagram covers all aspects of the infrastructure platform and provides an overview of the enterprise's technology platform.

Example Platform Decomposition Diagram



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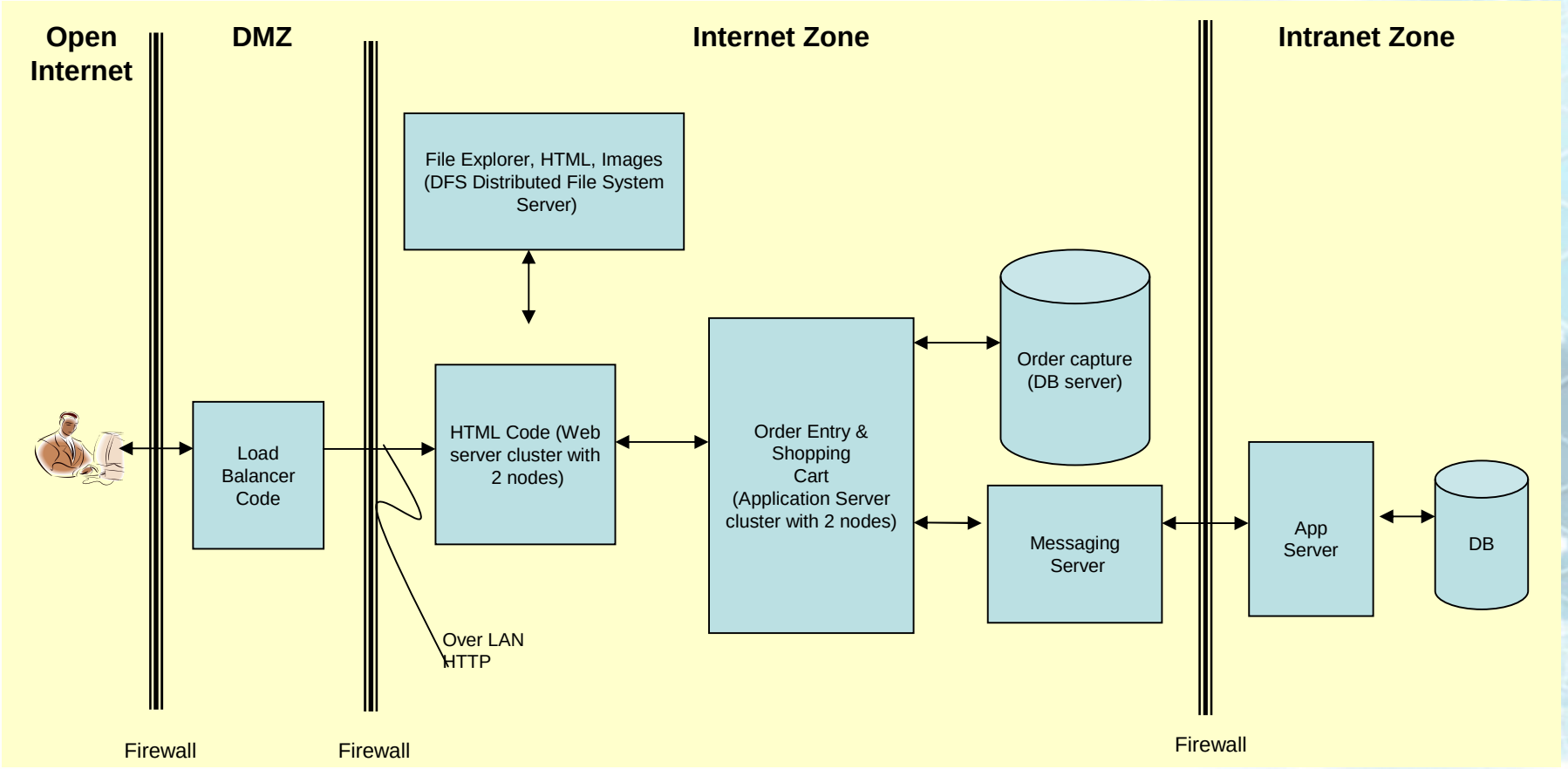
Processing Diagram

- The Processing diagram focuses on deployable units of code/configuration and how these are deployed onto the technology platform.
- The Processing diagram addresses the following:
  - Which set of application components need to be grouped to form a deployment unit
  - How one deployment unit connects/interacts with another (LAN, WAN, and the applicable protocols)
  - How application configuration and usage patterns generate load or capacity requirements for different technology components
- The organization and grouping of deployment units depends on separation concerns of the presentation, business logic, and data store layers and service-level requirements of the components.

Example Processing Diagram



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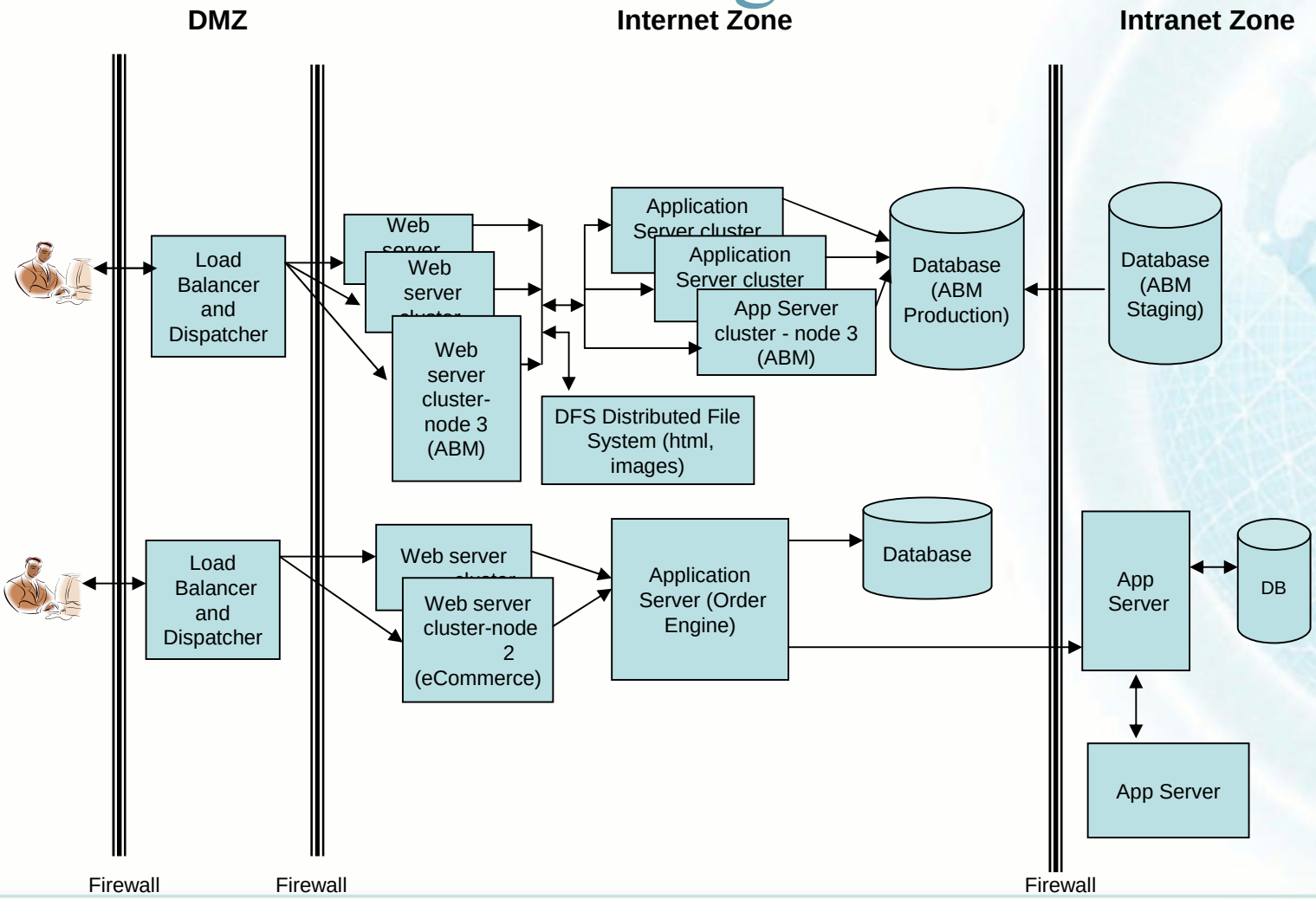
Network Computing Hardware Diagram

- The purpose of this diagram is to show the "as deployed" logical view of logical application components in a distributed network computing environment.
- The diagram is useful for the following reasons:
  - Enable understanding of which application is deployed where
  - Establishing authorization, security, and access to these technology components
  - Understand the Technology Architecture that support the applications during problem resolution and troubleshooting
  - Isolate performance problems encountered and perform necessary upgrade to specific physical technology components
  - Identify areas of optimization
  - Enable application/technology auditing and prove compliance
  - Serve as an important tool supporting effective change management

Example Network Computing Hardware Diagram



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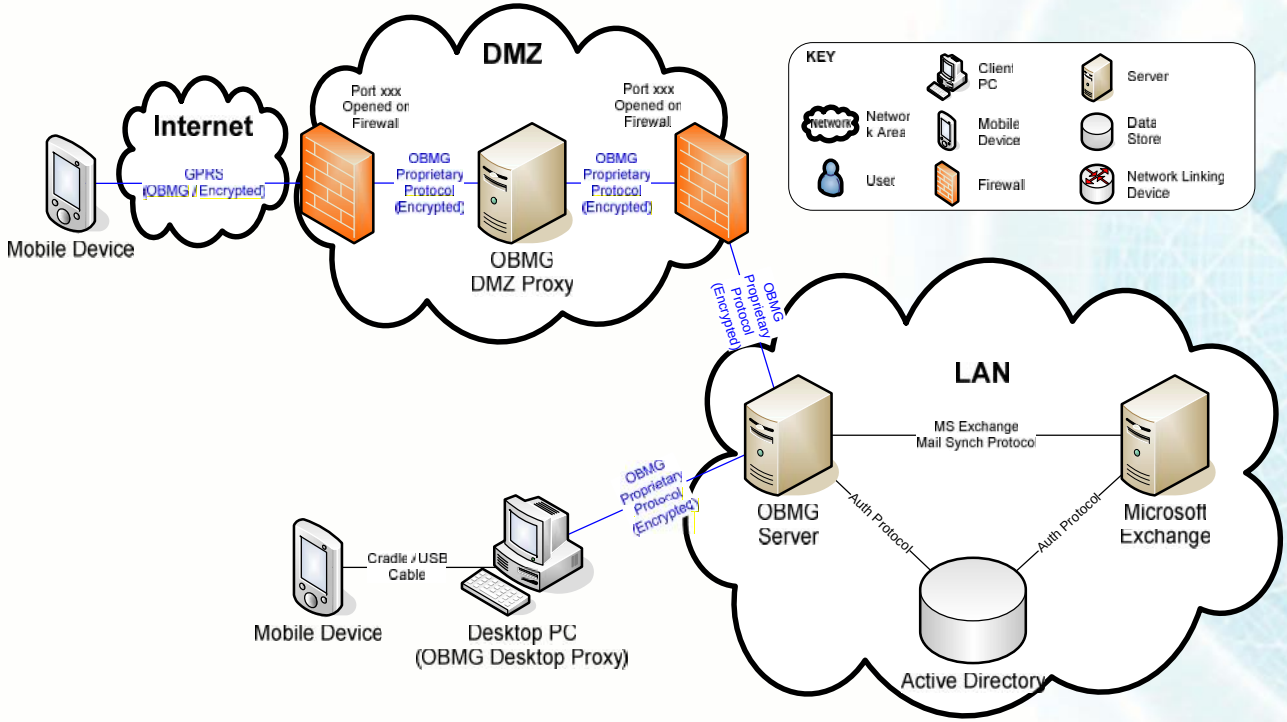
Communications Engineering Diagram

- The Communications Engineering diagram describes the means of communication between assets in the Technology Architecture
- It takes logical connections between client and server components and identifies network boundaries and network infrastructure required to physically implement those connections.
- It does not describe the information format or content, but addresses protocol and capacity issues.

Communications Engineering Diagram



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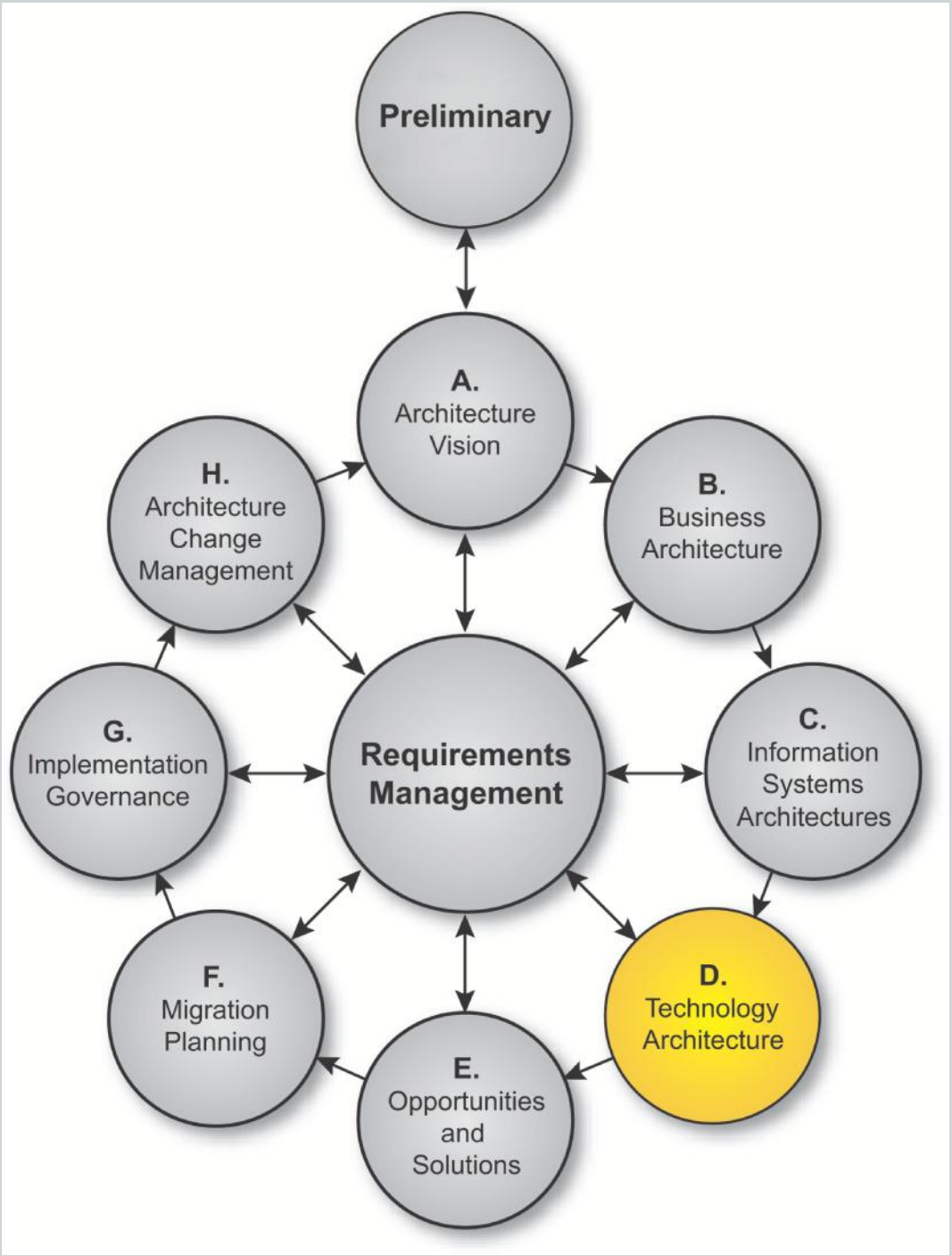
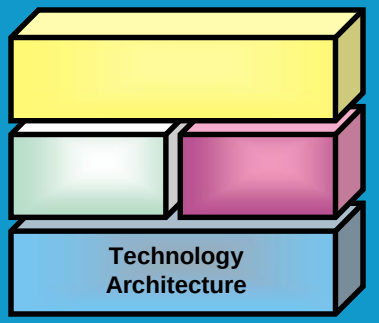


Phase D: Technology Architecture – Catalogs, Matrices and Diagrams



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