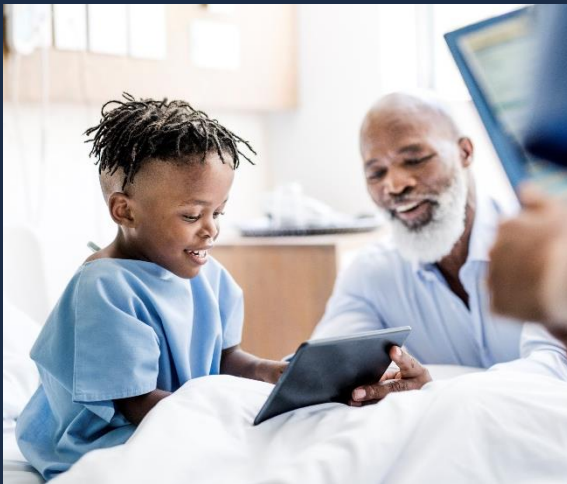**Microsoft**

Module 3
Healthcare Data Model

Healthcare + Common Data Model

- What is the Microsoft Common Data Model (CDM)
- Microsoft Cloud for Healthcare solution layering
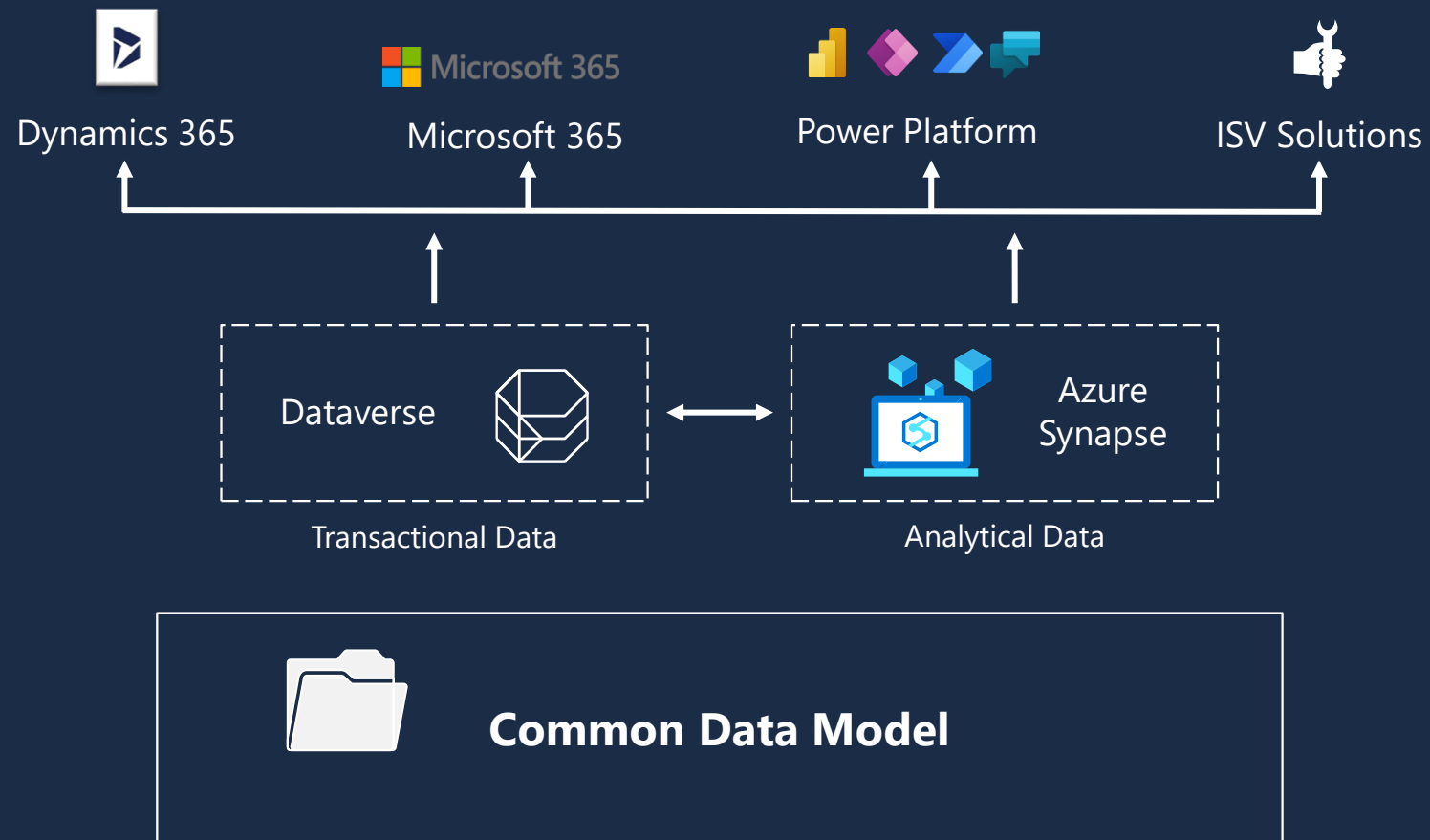- Healthcare Data Model extensibility
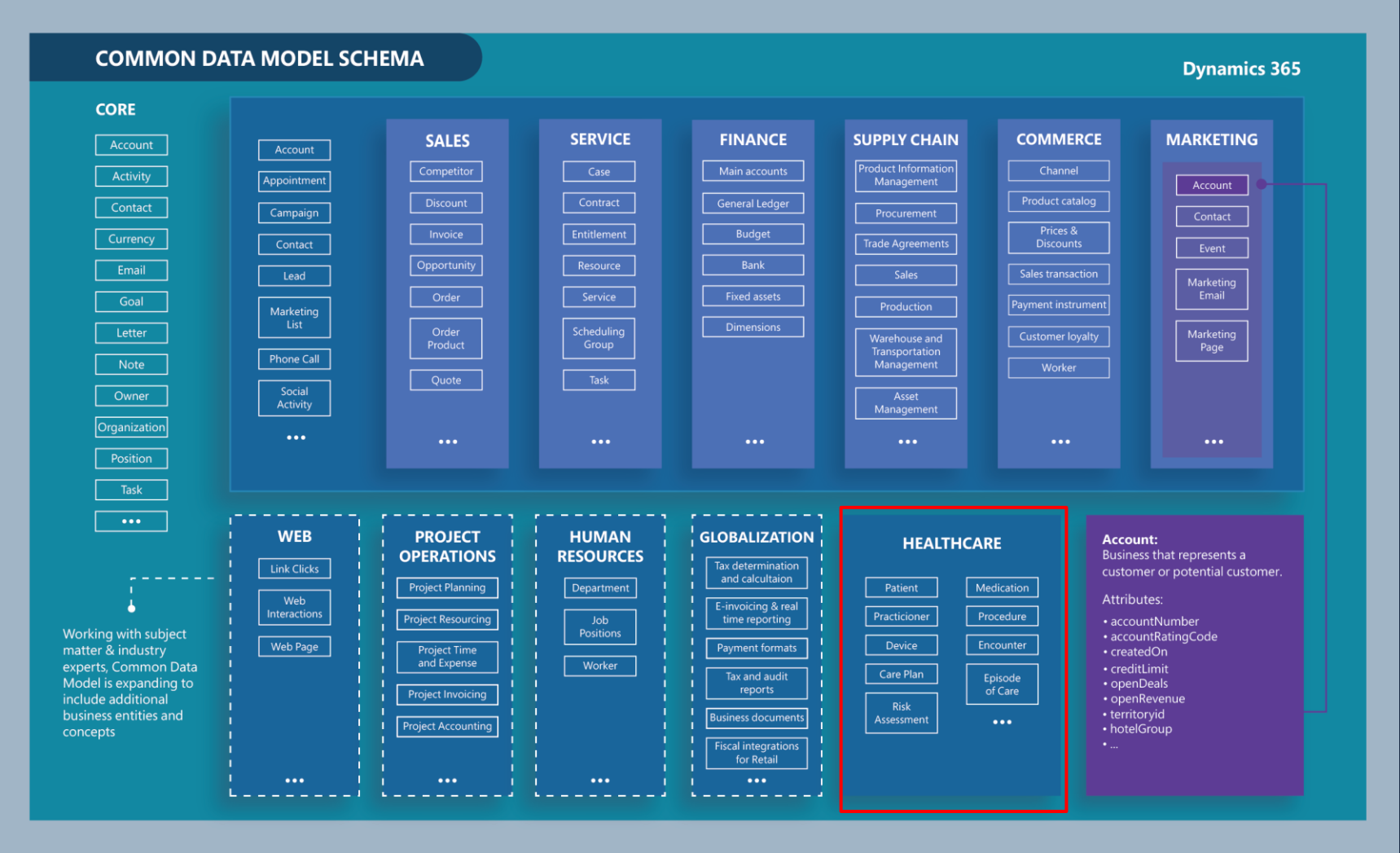
Microsoft Common Data Model

A common machine-understandable way to **describe data** with **semantic consistency** across business, transactional, analytical and industry domains that **drives interoperability** across apps and services from the Microsoft ecosystem, and customers to **create insights**
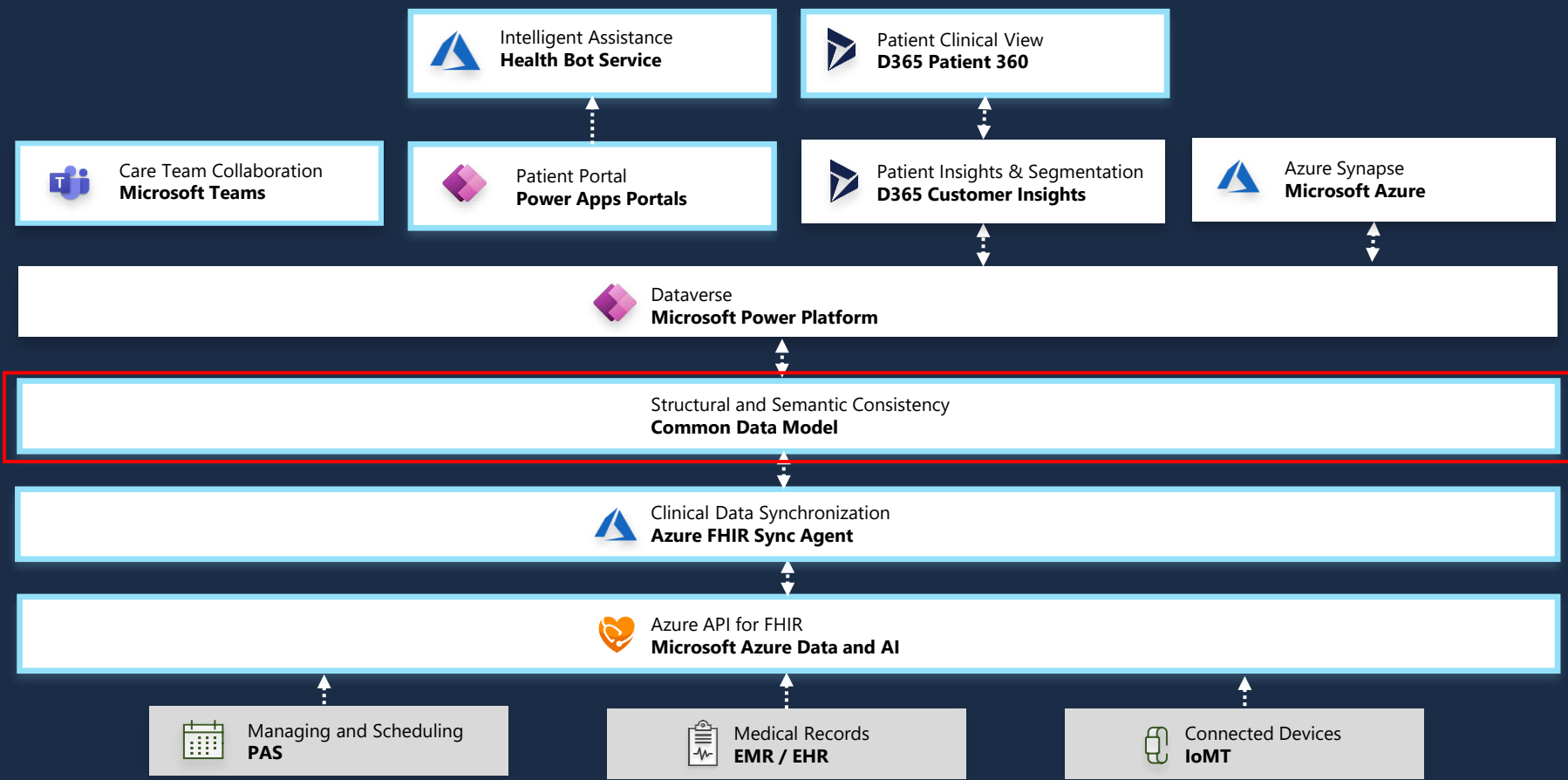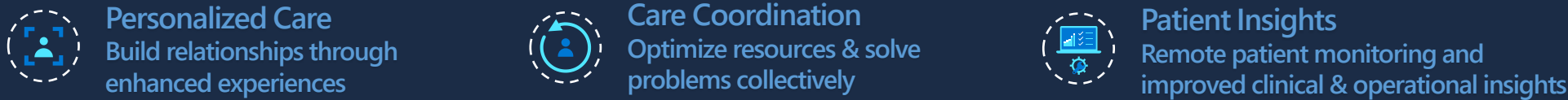
Microsoft Common Data Model

Common Data Model Schema

Common Data Model in Healthcare Cloud

Personalized Care
Build relationships through enhanced experiences

Care Coordination
Optimize resources & solve problems collectively

Patient Insights
Remote patient monitoring and improved clinical & operational insights

Intelligent Assistance
Health Bot Service

Patient Clinical View
D365 Patient 360

Care Team Collaboration
Microsoft Teams

Patient Portal
Power Apps Portals

Patient Insights & Segmentation
D365 Customer Insights

Azure Synapse
Microsoft Azure

Dataverse
Microsoft Power Platform

Structural and Semantic Consistency
Common Data Model

Clinical Data Synchronization
Azure FHIR Sync Agent

Azure API for FHIR
Microsoft Azure Data and AI

Managing and Scheduling
PAS

Medical Records
EMR / EHR

Connected Devices
IoMT

Key

Microsoft Cloud for Healthcare

Microsoft Product

Other

Microsoft

Microsoft Cloud for Healthcare Capabilities

+

Healthcare Data Model

Solution Layering in Microsoft Cloud for Healthcare

⭐ **Microsoft Cloud for Healthcare Capability Package** ➕ Microsoft Cloud for Healthcare Sample Data Package 🔺

⭐ Configuration Data | FHIR Sync Administration Package | Solution/s

⭐ Microsoft Cloud for Healthcare Team Collaboration Package | Solution/s

⭐ Configuration Data | Microsoft Cloud for Healthcare Foundation Package | Solution/s

⭐ Required   🔺 Optional

Microsoft Cloud for Healthcare

Microsoft Cloud for Healthcare provides capabilities to manage health data at scale and make it easier for healthcare organizations to improve the patient experience, coordinate care, and drive operational efficiency, while helping support security, compliance, and interoperability of health data.

☰

⌂ Home

☁ Existing deployments

⊞ Solutions ∧

    Nonprofit

    Sustainability

    Financial Services

    Retail

    Healthcare
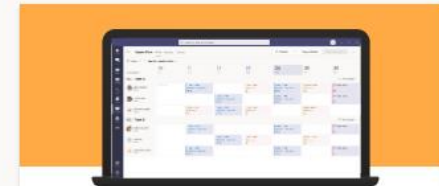
⚙ Support

Personalized care
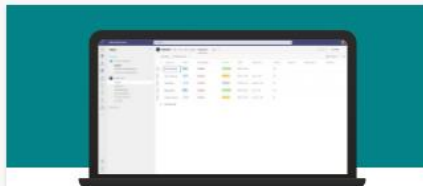
Quick view
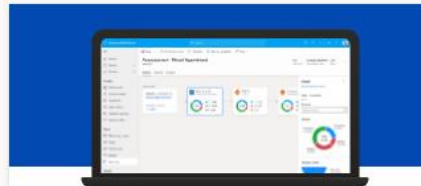
Patient insights

Quick view

Virtual health

Quick view

Care coordination

Quick view

Care collaboration

Quick view

Remote patient monitoring

Quick view
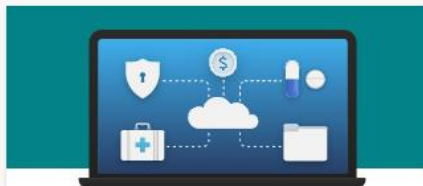
Clinical analytics

Quick view

Operational analytics

Quick view

Data management

Quick view

Microsoft | Microsoft Cloud Solution Center

- Home
- Existing deployments
- Solutions ⌄
  - Nonprofit
  - Sustainability
  - Financial Services
  - Retail
  - **Healthcare**
- Support

← Microsoft Cloud for Healthcare

Filter by capability

Data management ⌄

Data management

Managing the wealth of available healthcare data allows organizations to enhance patient engagement, improve clinical and operational insights, improve communications and enhance health outcomes.

☐ Add all Data management

Deploy (0)

Provider data model

This is the same HL7® FHIR® standards-based provider data model that comes included with all Microsoft Cloud for Healthcare solutions. Available as a standalone framework.

Quick view   ☐ Add

Life sciences data model (preview)

The HL7® FHIR® standards-based life sciences data model (preview) is focused on clinical trial recruit entities and supports digital clinical trial management.

Quick view   ☐ Add

Sync admin for FHIR

The sync admin helps sync patients' protected health information between EHR systems and Dataverse.

Quick view   ☐ Add

Payor data model (Preview)

The HL7® FHIR® standards-based payor data model preview is focused on claim entities and support for revenue cycle management.

Quick view   ☐ Add

Azure Synapse database templates

Templates for healthcare insurance, healthcare providers, and R&D and clinical trials data models

Quick view   Go to setup

Azure Health Data Services

Rapidly unify and standardize data coming from diverse streams such as clinical, imaging, device and unstructured data using our FHIR and DICOM services and Azure IoT Connector for FHIR.

Quick view   Go to setup

Entities Categories

- Administration
- Clinical
- Diagnostics
- Financial
- Foundational
- Medication
- Workflow

Healthcare Data Model
Care Management

Table	Schema/Logical Name
Allergy Intolerance	msemr_allergyintolerance
Appointment (EMR)	msemr_appointmentemr
Appointment Indication (EMR)	msemr_appointmentemrindication
Appointment Participant (EMR)	msemr_appointmentemrparticipant
Appointment Reason (EMR)	msemr_appointmentemrreason
Appointment Referral Request (EMR)	msemr_appointmentemrreferralrequest
Care Plan	msemr_careplan
Care Plan Activity	msemr_careplanactivity
Care Plan Activity Goal	msemr_careplanactivitygoal
Care Plan Activity Performer	msemr_careplanactivityperformer
Care Plan Care Team	msemr_careplancareteam
Care Plan Goal	msemr_careplangoal
Care Plan Goal Outcome	msemr_careplangoaloutcome
Care Plan Part Of	msemr_careplanpartof
Care Team	msemr_careteam
Care Team Managing Organization	msemr_careteammanagingorganization
Care Team Participant	msemr_careteamparticipant
Claim	msemr_Claim
Condition	msemr_condition
Contact (Patient, Related Person, Practitioner)	Contact
Coverage	msemr_Coverage
Device	msemr_device
Encounter	msemr_encounter
Encounter Diagnosis	msemr_encounterdiagnosis
Encounter Episode of Care	msemr_encounterepisodeofcare
Encounter Location	msemr_encounterlocation
Encounter Participant	msemr_encounterparticipant
Encounter Reason	msemr_encounterreason
Episode of Care	msemr_episodeofcare

Table	Schema/Logical Name
Goal	msemr_goal
Health Care Service	msemr_healthcareservice
Health Care Service Location	msemr_healthcareservicelocation
Insurer	Account
Location	msemr_location
Medication	Product
Medication Administration	msemr_medicationadministration
Medication Price List	PriceLevel
Medication Request	msemr_medicationrequest
Nutrition Order	msemr_nutritionorder
Observation	msemr_observation
Observation Based On	msemr_observationbasedon
Observation Category	msemr_observationcategory
Observation Performer	msemr_observationperformer
Organization	Account
Patient	Contact
Practitioner	Contact
Practitioner Qualifications	msemr_practitionerqualification
Practitioner Role	msemr_practitionerrole
Price List Items	ProductPriceLevel
Procedure	msemr_procedure
Procedure Based On	msemr_procedurebasedon
Procedure Body Site	msemr_procedurebodysite
Procedure Performer	msemr_procedureperformer
Referral Request	msemr_referralrequest
Related Person	Contact
Related Person Link	msemr_relatedperson
Risk Assessment	msemr_riskassessment
Specimen	msemr_specimen
Task	Task
Unit Group	UoMSchedule

*This slide demonstrates the CDM for Healthcare based on sample data. This is not a full representation

Healthcare Data Model
Patient Outreach

Table	Schema / Logical Name
All Tables from Care Management / Foundational Data	
Appointment	appointment
Phone Call	phonecall
Marketing List	list
Customer Journey	msdyncrm_custom
Marketing Email	msdyncrm_market
Event	msevtmgt_event
Event Registration	msevtmgt_eventr
Lead	lead
Segment	msdyncrm_segment

*The slide demonstrates the CDM for Healthcare based on sample data, and not a full representation
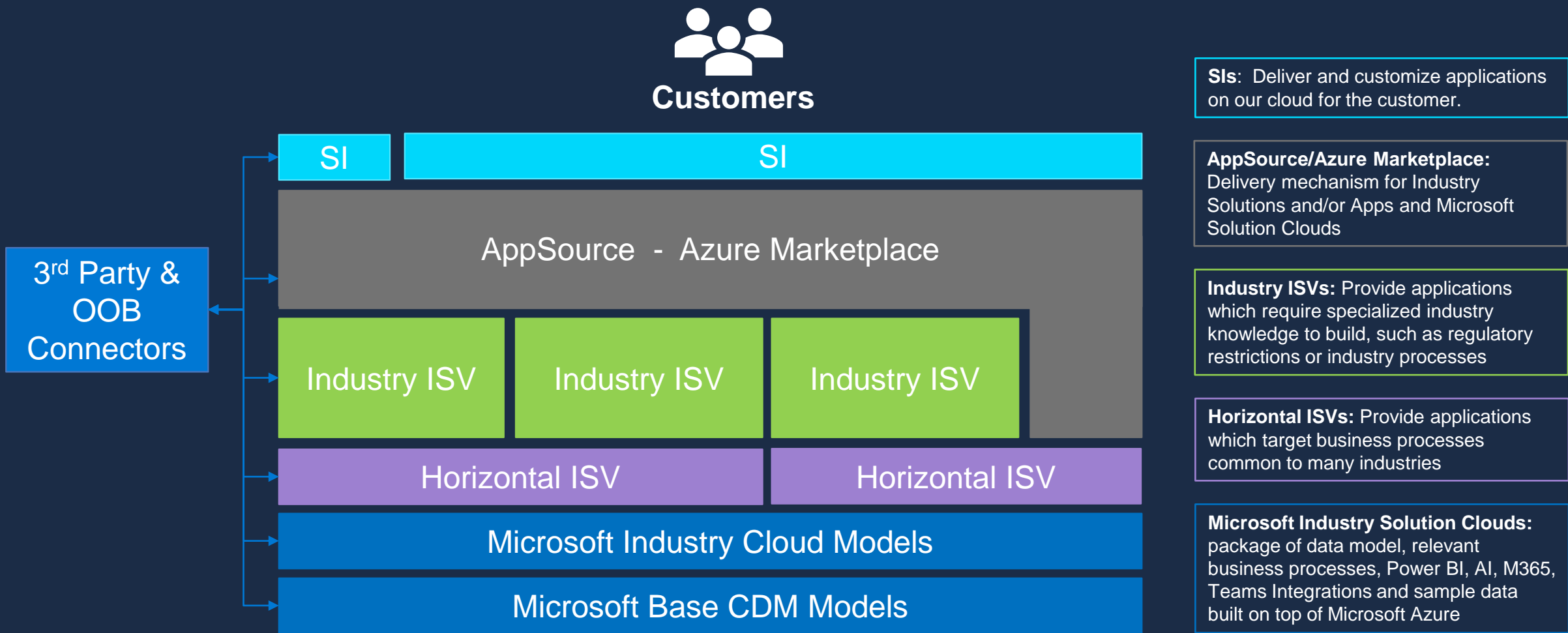
Healthcare Data Model
Home Health

Table	Schema / Logical Name
All Tables from Care Management / Foundational Data	
Incident Type	msdyn_incidenttype
Case	incident
Home Care	msdyn_workorder
Price List	pricelevel

*The slide demonstrates the CDM for Healthcare based on sample data, and not a full representation

Healthcare
Data Model
Extensibility

CDM Extensibility – Solution Delivery Model

Customers

SI   SI

3rd Party & OOB Connectors

AppSource - Azure Marketplace

Industry ISV   Industry ISV   Industry ISV

Horizontal ISV   Horizontal ISV

Microsoft Industry Cloud Models

Microsoft Base CDM Models

SIs: Deliver and customize applications on our cloud for the customer.

AppSource/Azure Marketplace: Delivery mechanism for Industry Solutions and/or Apps and Microsoft Solution Clouds

Industry ISVs: Provide applications which require specialized industry knowledge to build, such as regulatory restrictions or industry processes

Horizontal ISVs: Provide applications which target business processes common to many industries

Microsoft Industry Solution Clouds: package of data model, relevant business processes, Power BI, AI, M365, Teams Integrations and sample data built on top of Microsoft Azure

Answer the following questions to see what you've learned.

1. Which of the following solutions was deprecated in November 2020?

A   Microsoft Cloud for Healthcare

B   Microsoft Cloud for Healthcare data model

C   Dynamics 365 Healthcare Accelerator

D   Dynamics 365 Field Service

2. Which one of the following apps isn't used by the Microsoft Cloud for Healthcare data model?

A   Dynamics 365 Project Operations

B   Dynamics 365 Field Service

C   Dynamics 365 for Marketing

D   Dynamics 365 Customer Service

3. The healthcare data model for Dynamics 365 is based on which of the following entities?

A   Common Data Model

B   Fast Healthcare Interoperability Resources (FHIR) standards framework

C   Dynamics 365 Customer Service

D   Azure Synapse

4. Common Data Model can be used by which of the following services?

A   Microsoft Dataverse

B   Microsoft Dynamics 365 and Power Platform

C   Microsoft Azure

D   All the above

Answer the following questions to see what you've learned.

1. Which of the following solutions was deprecated in November 2020?

A ○ Microsoft Cloud for Healthcare

B ○ Microsoft Cloud for Healthcare data model

C ◉ Dynamics 365 Healthcare Accelerator

D ✔ Dynamics 365 Healthcare Accelerator was deprecated in November 2020.

○ Dynamics 365 Field Service

2. Which one of the following apps isn't used by the Microsoft Cloud for Healthcare data model?

A ◉ Dynamics 365 Project Operations

B ✔ Dynamics 365 Project Operations isn't used by the Microsoft Cloud for Healthcare data model.

C ○ Dynamics 365 Field Service

D ○ Dynamics 365 for Marketing

○ Dynamics 365 Customer Service

3. The healthcare data model for Dynamics 365 is based on which of the following entities?

A ○ Common Data Model

B ◉ Fast Healthcare Interoperability Resources (FHIR) standards framework

C ✔ The healthcare data model for Dynamics 365 is based on the Fast Healthcare Interoperability Resources (FHIR) standards framework.

D ○ Dynamics 365 Customer Service

○ Azure Synapse

4. Common Data Model can be used by which of the following services?

A ○ Microsoft Dataverse

B ○ Microsoft Dynamics 365 and Power Platform

C ○ Microsoft Azure

D ◉ All the above

✔ Common Data Model is used by Microsoft Dataverse, Dynamics 365, Microsoft Power Platform, and Azure.

References - Data Model

- [Microsoft Cloud for Healthcare data model - Learn | Microsoft Docs](#)
- [Deploy Microsoft Cloud for Healthcare | Microsoft Docs](#)
- [Overview of Microsoft Cloud for Healthcare entities - Common Data Model - Common Data Model | Microsoft Docs](#)
- [Data model overview | Microsoft Docs](#)
- [CDM/schemaDocuments/Healthcare at master · microsoft/CDM (github.com)](#)

15-minute break

Next Session:

Lab 01
Care Management

Microsoft