

Internet

Datacenter Extension / Azure

SAP Core

Corporate Network / Server Core

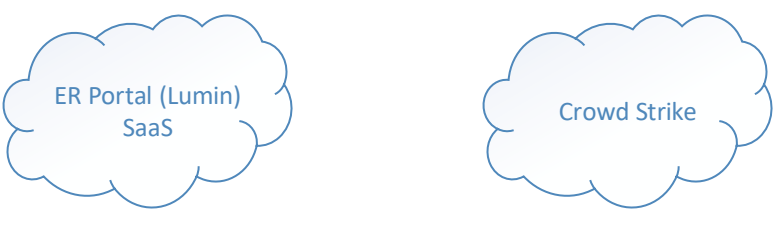
Industrial DMZ

Manufacturing Network

Azure IoT and AI analytics



SaaS Technologies



Azure IoT and AI analytics



CSI Operations

Manage Vulnerabilities, Incident Response, & Forensics

IT Manufacturing Systems Support Capabilities

Provide Support And Services

Business Intelligence Capabilities

Data Transformation, Data Ingestion, Analytics, Data Storage, Open Connectivity



Manufacturing Network Monitoring Technologies

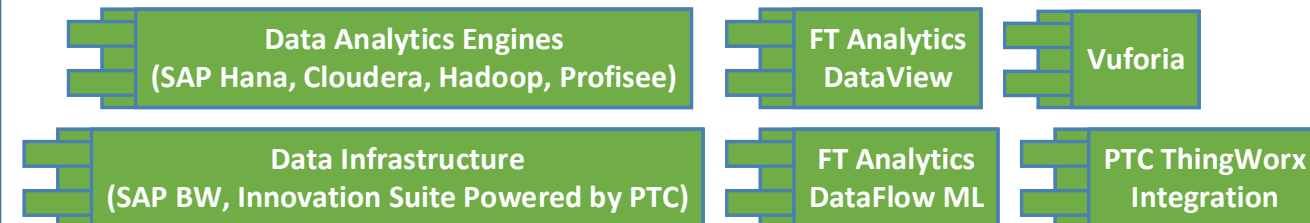
(Clarity, Solar Winds, Diagnostic Reliability System (DRS))



IT Manufacturing Network Technologies

Uptime

Business Intelligence Technologies



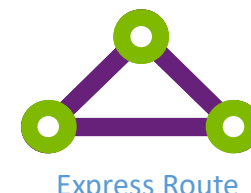
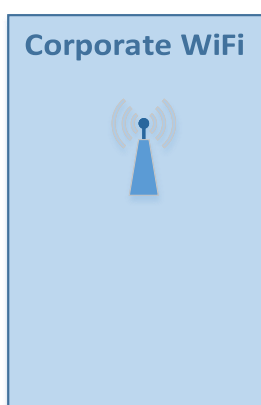
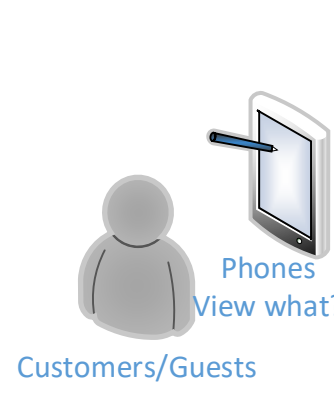
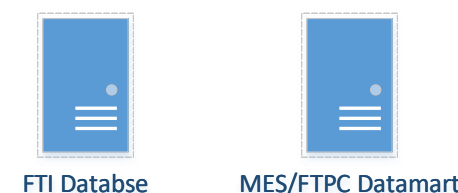
SAP ERP Technologies

HR, CRM, Finance, GTS, SRM, SCM

SAP ERP Capabilities High Level

Supply, Demand, Manufacturing Process Planning, HR, Finance, CRM, Finance, Logistics

Corporate AD



Level 3.5

Industrial DMZ - used to facilitate or transfer from the supervisory layer or the control layer to an IT mgt layer identified as the 3.5 network zone. The zone should be for things we only want to allow access to from the corporate network with everything else firewalled off. Example Thingworx for analytics, or our RA product the Common Gateway platform. Software packages like OSI that do protocol translation from controls protocols and convert and move the info up to SAP. Patching activities and remote access.

Security

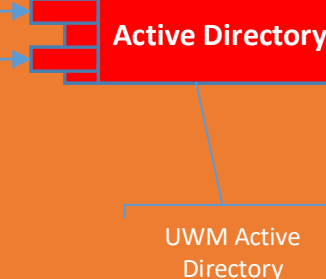


MES Layer Capabilities

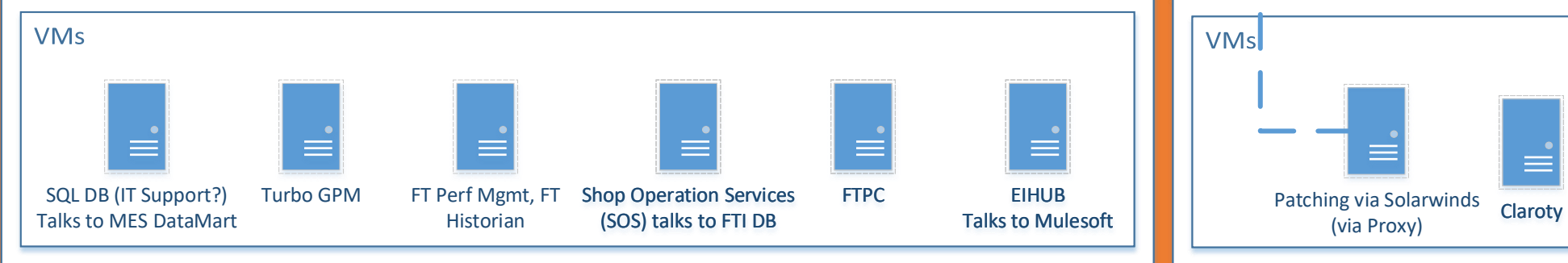
Operator Training & Certification, Downtime Management, Manufacturing Asset Maintenance, Provide Product Marking Finished Goods Labeling, Documented Work Instructions, Integration Gateway

Manufacturing Change Management, Manufacturing Quality Management, Production Order Management, Monitor Process Execution

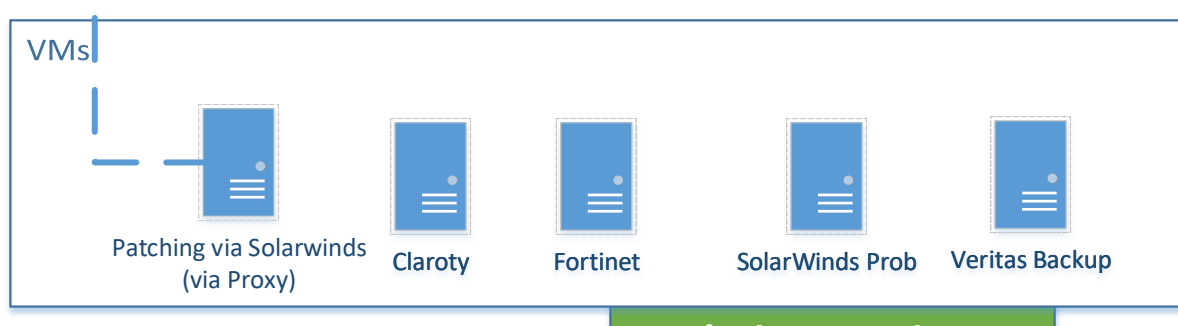
Level 3 - Site Operations



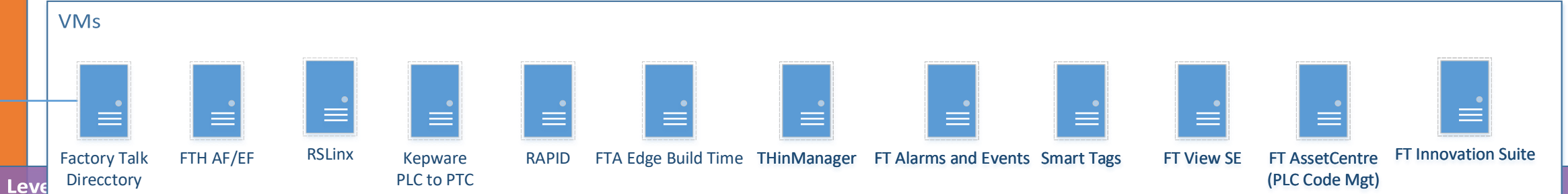
IDC IT MES Layer Technologies



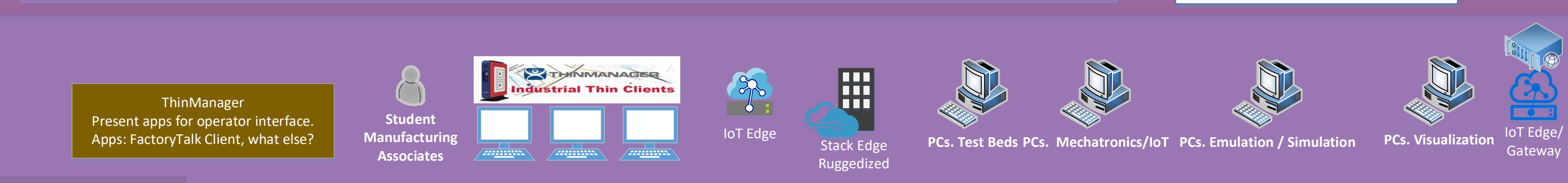
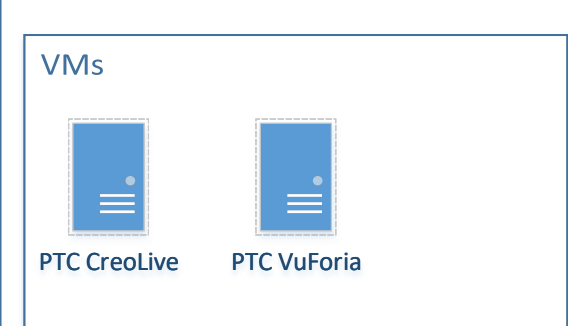
IDC Network Services (NSS) CSM Technologies



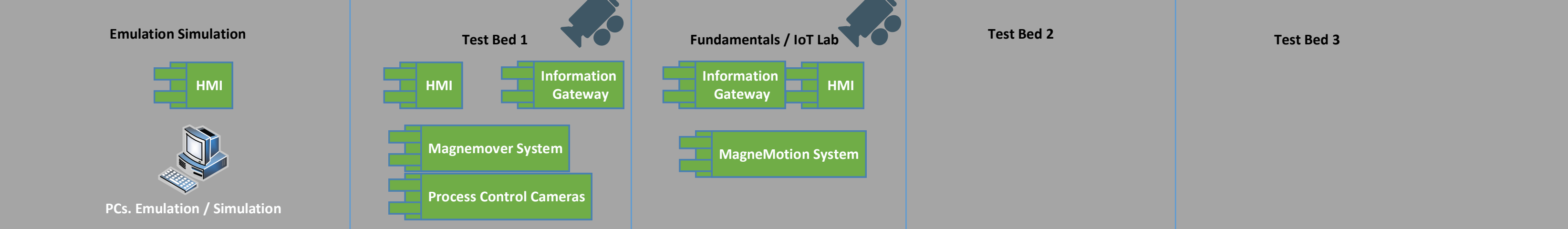
Supervisory Layer in IDC - RA Technologies



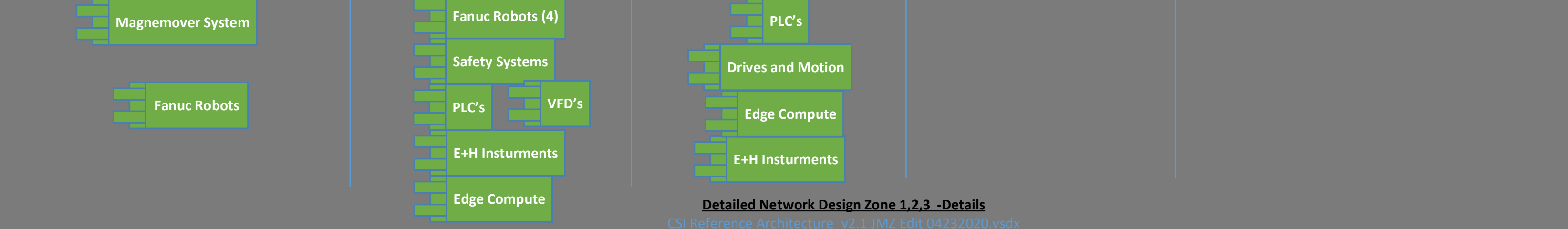
Analytic Layer in IDC



Level 1 Cell/Area Zones - 0-2 (Basic Controls - Batch Control, Discrete Control, Drive Control, Safety Control)



Level 0 Cell/Area Zones - 0-2 (Process - Sensors, Drives, Robots)



Detailed Network Design Zone 1,2,3 -Details

CSI Reference Architecture_v2.1 Jmz Edit 04252020.psdx

