Virtual Power Plant Energy Asset Mgmt.
ABB OPTIMAX Reference Architecture
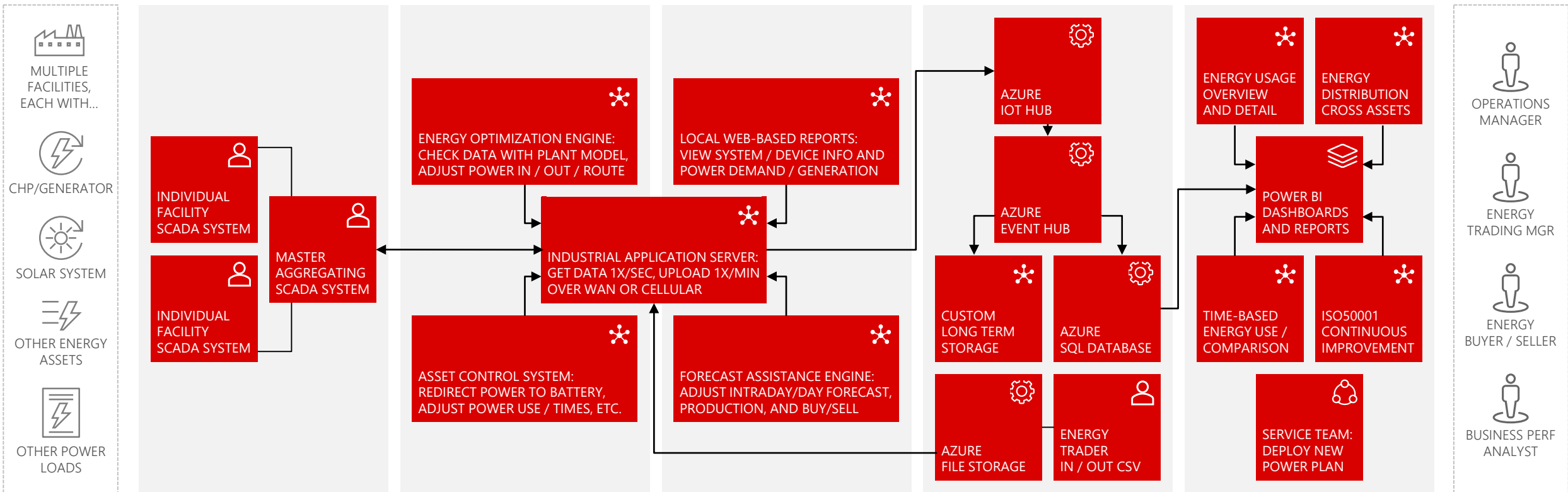
ABB

System Integration	Energy Optimization	Energy Forecasting	Cloud Services	Mgmt. Experience
Our solution integrates operational data from all your energy assets across all facilities and analyzes it against your power plan and goals.	Energy optimization algorithms review each facility and asset against the plan and recommend changes to production / capacity.	Production data is merged with info from traders in reports that help you accurately adjust forecasts and maximize returns.	Microsoft's Azure cloud provides a scalable, resilient, secure platform for your operational data and for our solution components.	Your team uses Power BI to review energy assets and production, improve efficiencies and meet continuous improvement req's.

MULTIPLE FACILITIES, EACH WITH...

CHP/GENERATOR

SOLAR SYSTEM

OTHER ENERGY ASSETS

OTHER POWER LOADS

INDIVIDUAL FACILITY SCADA SYSTEM

INDIVIDUAL FACILITY SCADA SYSTEM

MASTER AGGREGATING SCADA SYSTEM

ENERGY OPTIMIZATION ENGINE: CHECK DATA WITH PLANT MODEL, ADJUST POWER IN / OUT / ROUTE

INDUSTRIAL APPLICATION SERVER: GET DATA 1X/SEC, UPLOAD 1X/MIN OVER WAN OR CELLULAR

ASSET CONTROL SYSTEM: REDIRECT POWER TO BATTERY, ADJUST POWER USE / TIMES, ETC.

LOCAL WEB-BASED REPORTS: VIEW SYSTEM / DEVICE INFO AND POWER DEMAND / GENERATION

FORECAST ASSISTANCE ENGINE: ADJUST INTRADAY/DAY FORECAST, PRODUCTION, AND BUY/SELL

AZURE IOT HUB

AZURE EVENT HUB

CUSTOM LONG TERM STORAGE

AZURE SQL DATABASE

AZURE FILE STORAGE

ENERGY TRADER IN / OUT CSV

ENERGY USAGE OVERVIEW AND DETAIL

ENERGY DISTRIBUTION CROSS ASSETS

POWER BI DASHBOARDS AND REPORTS

TIME-BASED ENERGY USE / COMPARISON

ISO50001 CONTINUOUS IMPROVEMENT

SERVICE TEAM: DEPLOY NEW POWER PLAN

OPERATIONS MANAGER

ENERGY TRADING MGR

ENERGY BUYER / SELLER

BUSINESS PERF ANALYST

✳ Partner component	⬡ Solution Builder component	⚙ Azure service	▧ Microsoft product	👤 Customer component