Modeling in the IDL

Andy Frank

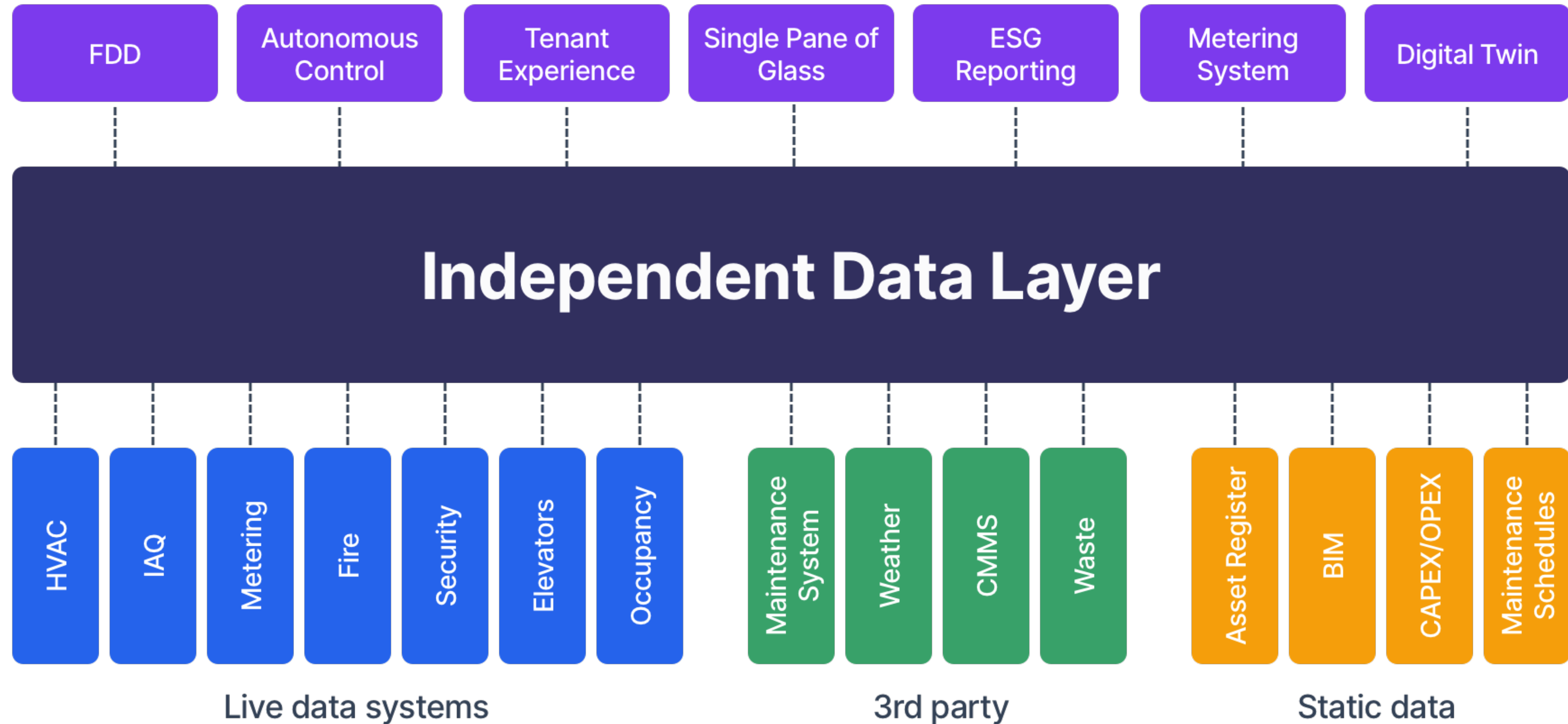Principal

novant

What is an IDL?

How we access data in buildings today

The IDL is a *strategy*

Independent Data Layer

FDD · Autonomous Control · Tenant Experience · Single Pane of Glass · ESG Reporting · Metering System · Digital Twin

HVAC · IAQ · Metering · Fire · Security · Elevators · Occupancy

Live data systems

Maintenance System · Weather · CMMS · Waste

3rd party

Asset Register · BIM · CAPEX/OPEX · Maintenance Schedules

Static data
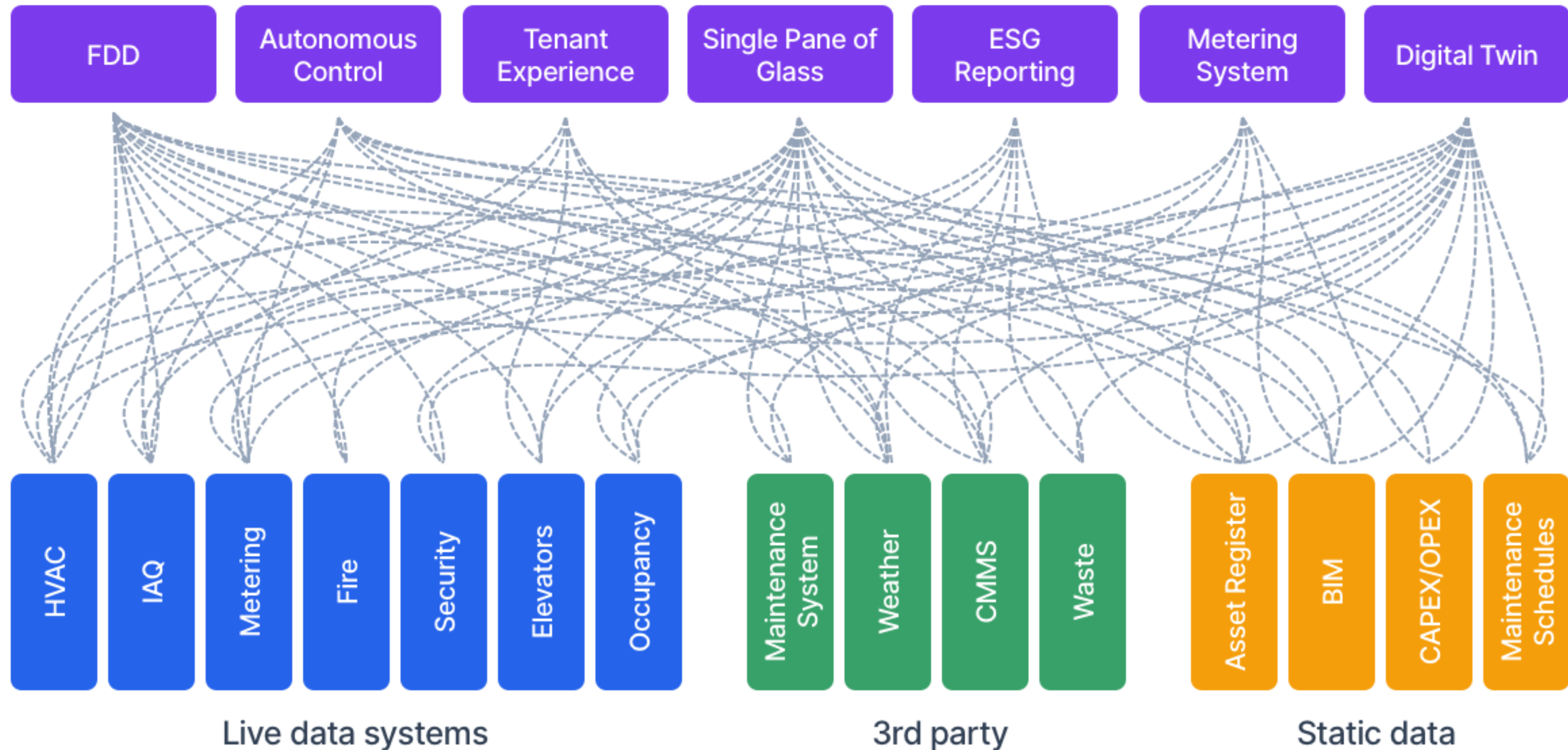
What an IDL is *not*

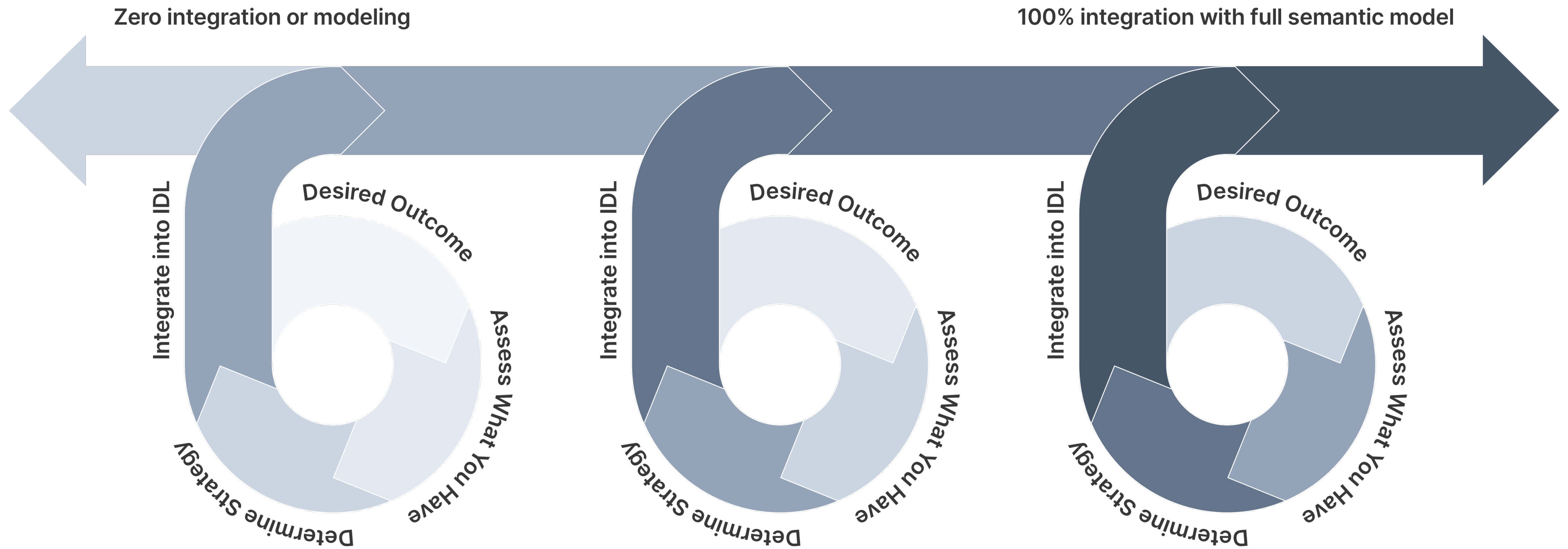Can, but does **not** need to be a new stand-alone solution

Improves but does **not** remove the initial integration and modeling step

Will **not** magically "fix" poor IT and control networks or designs

Does **not** directly enhance your building; instead provides the conduit for other solutions

Does **not** require 100% integration and modeling before it is useful

The IDL Journey

Zero integration or modeling

100% integration with full semantic model

Integrate into IDL

Desired Outcome

Assess What You Have

Determine Strategy

Integrate into IDL

Desired Outcome

Assess What You Have

Determine Strategy

Integrate into IDL

Desired Outcome

Assess What You Have

Determine Strategy

Benefits of an IDL

Integrate Once, Use Everywhere.
Zero cost for each new app.

Instant access to live data, trend data, and semantic models

Uniform data access using high-level API abstractions; no more juggling obscure binary protocols

Visibility and control of who has access to your systems and they are interacting

Streamlined FM and operations using a consistent platform

The Physical and Logical Divide

Asset Register

Maintenance Schedules

Preventive Maintenance

ACM/AOM

CMMS

Work History

MIND THE GAP

Trends

Live Data

ASC

FDD

AI Control

Scheduling

Bridging the Gap

VAV 12
Asset ID   a.307
Vendor   Carrier
Model   VAV-HL05
Tags   equip vav

VAV 12 Controller
Asset ID   a.180
Vendor   Distech
Model   ECB-VAV
Tags   device controller

- point cmd damper air
- point sensor discharge air temp
- point cmd fan air
- point sensor zone air co2
- point sensor zone air temp
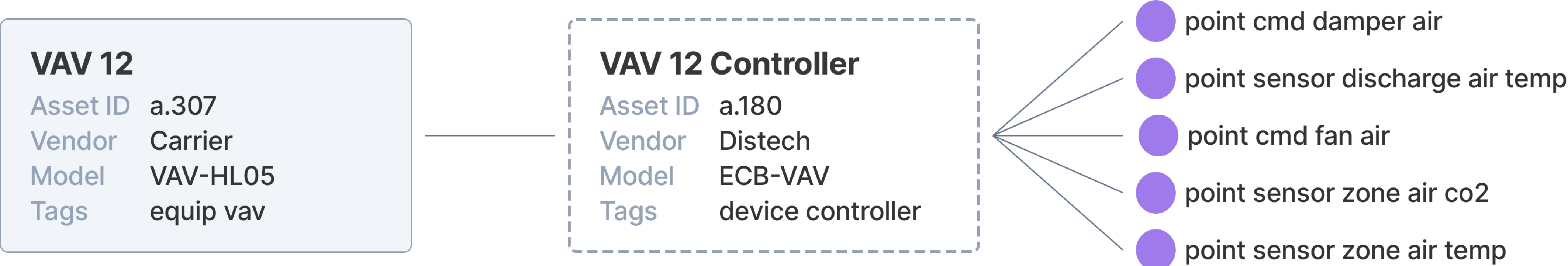
Modeling the *Whole* Building

FDD Results

04 Mar 2023	Zone temp out of range
15 Jan 2023	Fan short cycling
27 Dec 2022	Damper stuck

Predictive Maintenance

Automated Control

VAV 12

Asset ID	a.307
Vendor	Carrier
Model	VAV-HL05
Tags	equip vav

VAV 12 Controller

Asset ID	a.180
Vendor	Distech
Model	ECB-VAV
Tags	device controller

- point cmd damper air
- point sensor discharge air temp
- point cmd fan air
- point sensor zone air co2
- point sensor zone air temp

Maintenance History

25 Mar 2020	Installed
30 Mar 2021	Replaced air filter
18 Oct 2022	Replaced faulty temp sensor
28 Mar 2022	Replaced air filter

Asset Properties

Serial Number	Y12H09CJXB
Install Date	25 Mar 2020
Expected Life	15 years
Contractor	ACME Mechanical

Maintenance History

02 Apr 2020	Commissioned
22 Jul 2020	Replaced wires for ai.3
18 Oct 2022	Updated firmware to 1.2.825
07 Jan 2023	Reset due to stuck values

Asset Properties

Serial Number	A12HG8912
Install Date	31 Mar 2020
Warranty Period	1 year
Contractor	ACME Mechanical

Andy Frank

Principal

andy@novant.io

linkedin.com/in/afrankvt