



Survalent.

SurvalentONE DERMS

Smarter Management of Distributed Energy Resources

Hasnain Mirza, Product Manager



Disclaimer

This roadmap reflects Survalent's strategic vision and innovation path.

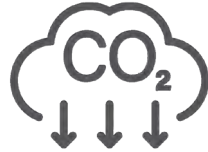
It is a forward-looking view of how we plan to evolve our platform in partnership with our customers — informed by emerging technologies, evolving operational needs, and our collective commitment to building a more intelligent, resilient, and data-driven grid.

While priorities and delivery timelines may adjust as we adapt to real-world challenges, our direction remains clear: enabling utilities to thrive in a more complex, connected, and dynamic energy landscape.

The Utility Challenge: Understand, Manage, Optimize



Grid
Modernization



Decarbonization



Demand-Side
Flexibility



Energy
Electrification

WEATHER



SECURITY

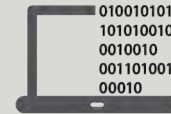


PEOPLE



Plan
Monitor
Control
Optimize

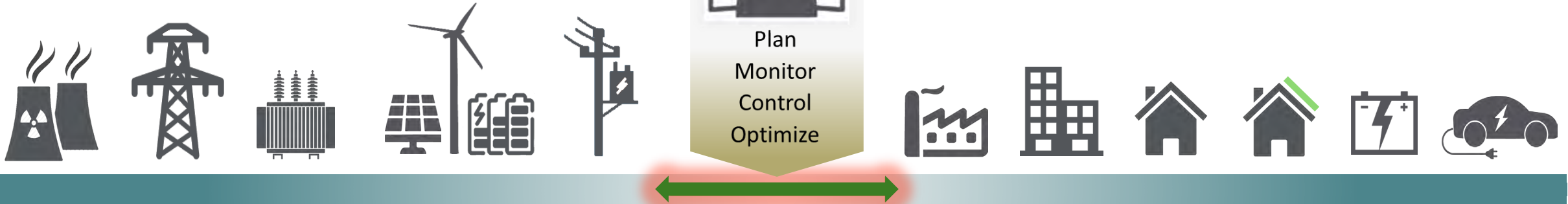
DIGITAL
TRANSFORMATION



SMART CITY/TRANSPORT



IoT



UtiliverseTM



The Challenge: A Grid Under Pressure

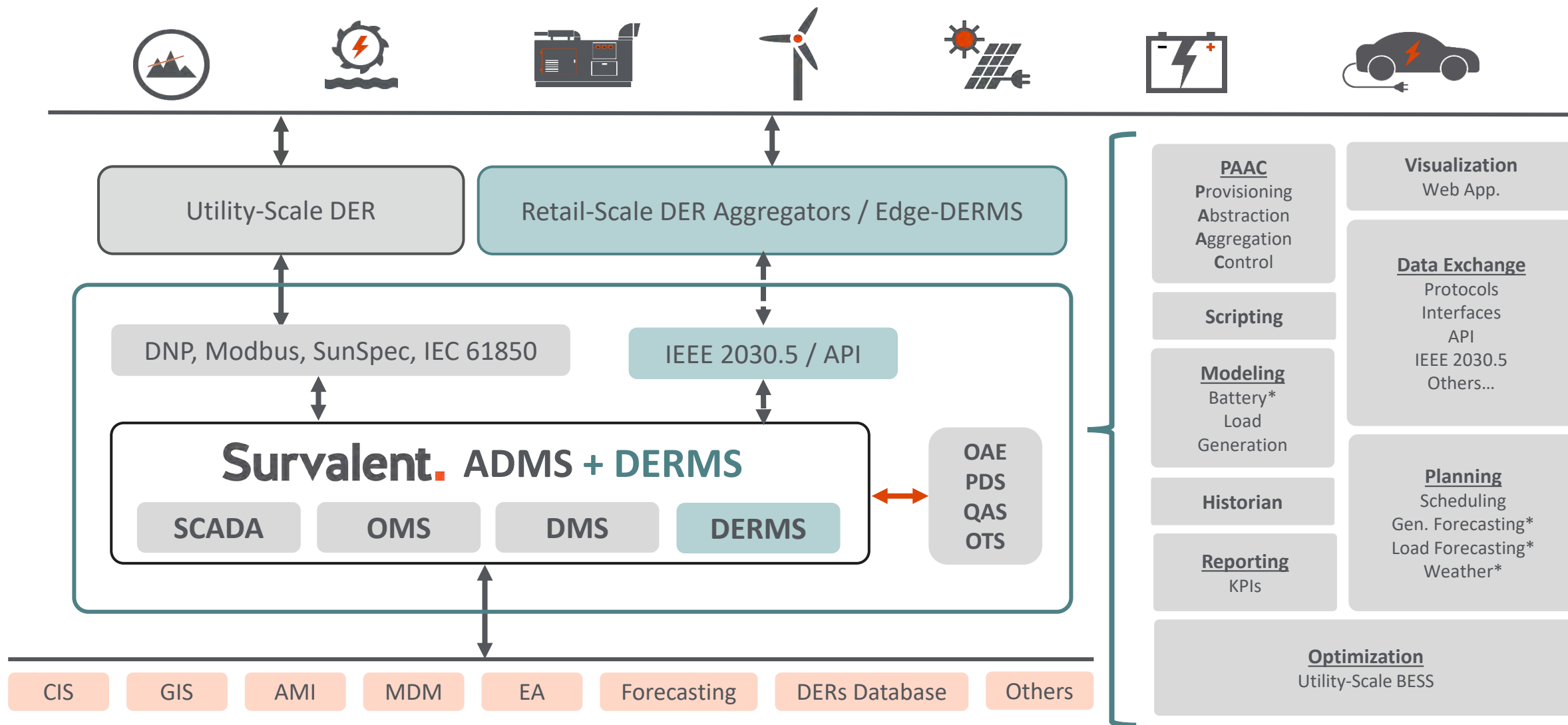
- **Lack of Visibility:** Operators are flying blind. They can't see the power being generated or consumed by these devices in real time. This is a massive data gap.
- **Outage Complexity:** DERs can complicate outage events. For example, a solar panel might still be generating power on a disconnected feeder, creating a safety hazard for linemen.
- **Congestion and Overloads:** Unpredictable power flow can lead to grid congestion, causing transformers and power lines to become overloaded.
- **Voltage Fluctuation:** The intermittent nature of renewables like solar can cause sudden voltage spikes and sags, leading to instability and potential equipment damage.



The Foundational Platform: SurvalentONE ADMS

- ADMS stands for Advanced Distribution Management System. For our clients, this system is the single pane of glass for all their distribution grid operations.
- It's built on a foundation of SCADA, which provides real-time monitoring and control of traditional grid assets like switches, reclosers, and capacitors.
- It includes a powerful **Outage Management System** (OMS) that quickly pinpoints the location of an outage and streamlines the restoration process.
- Crucially, it features **FLISR** (Fault Location, Isolation, and Service Restoration), which automatically reroutes power to restore service to as many customers as possible in a matter of seconds.

Grid-Centric DERMS



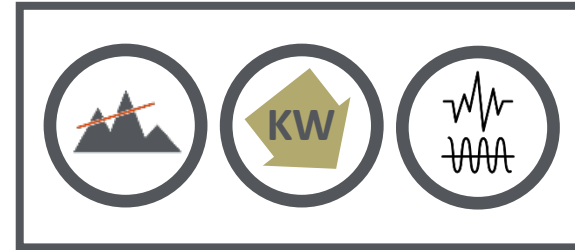
Why ADMS and DERMS Must Work Together



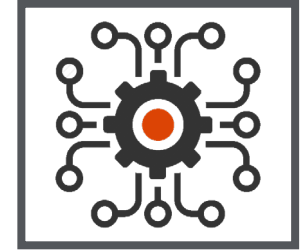
1. Visibility & Control
SCADA - DR



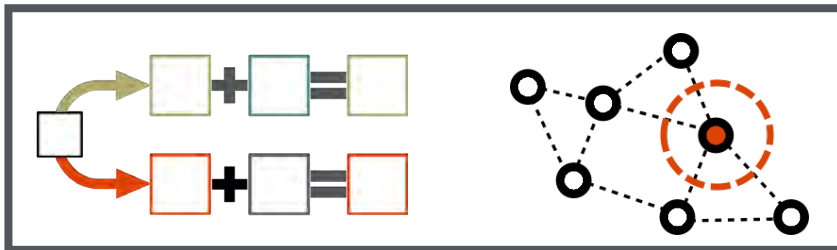
2. Outage Management
OMS



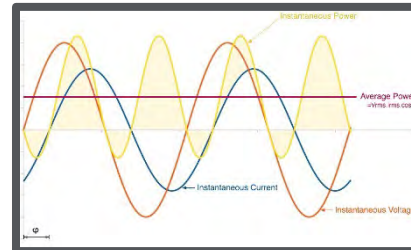
3. Utility Objectives
**Peak & Demand Response,
Voltage & Freq Regulation**



4. Reliability
FLISR



5. Contingency Planning - Islanding
Power Flow, Dist. State Estimation



6. System Efficiency
Volt-VAR Optimization



7. Market Participation
**Day-Ahead, Reserves,
Peak, Voltage Support**



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SurvalentONE DERMS Roadmap

SurvalentONE DERMS: Evolution

Phase 1: Foundational Visibility

Gain visibility into all Distributed Energy Resources (DERs).
Enable real-time monitoring and mapping of status and capacity.
Establish foundational data and analytics for enhanced grid awareness.

Phase 3: Optimized Scheduling & Forecasting

Optimize DER deployment across diverse programs and geographic regions.
Utilize predictive analytics for proactive DER management.
Enhance grid planning with improved DER impact assessments.

Phase 5: Autonomous Operations & Market Integration

Achieve autonomous DER coordination, minimizing manual intervention.
Integrate DERs into wholesale markets..
Enable dynamic responses to market signals and evolving grid conditions.

1

2

3

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Phase 2: Initial Control Capability

Implement direct control over DERs.
Introduce basic grid services like peak shaving and demand response.
Streamline execution of DER programs for quick value realization.

Phase 4: Advanced Grid Optimization

Unlock advanced grid functionalities using DERs, such as FLISR.
Achieve real-time co-optimization between DER management and distribution operations systems.
Implement highly targeted programs for localized grid support.

Key DER Communication Protocols

IEEE 2030.5

SunSpec Modbus

DNP3

IEC 60870 *

IEC 61850

IEEE 1547

SurvalentONE DERMS: Where are we now

Phase 1: Foundational Visibility

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2

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Battery Energy Storage System: Managing the New Storage

- **Rapid Response:** A Battery Energy Storage System (BESS) can react in milliseconds, much faster than any traditional power plant, providing a first line of defense against grid instability.
- **Enhanced Reliability:** This millisecond-level precision prevents minor fluctuations from becoming major grid events, dramatically improving grid reliability.
- **Operational Efficiency:** By using a BESS for regulation, utilities can reduce their reliance on expensive, less-efficient "peaker" plants that are typically used for this purpose.
- **Monetization:** A BESS can be a new revenue stream for the utility by providing valuable ancillary services to the transmission operator.



SurvalentONE BESS: Controls

Fixed Charging/Discharging

Follows a predetermined schedule to charge or discharge the BESS at specified times and power levels.

Load Peak Shaving

Discharge setpoint adjusts to follow load above specified threshold, reducing demand during peak periods.

Generation Support

Activates discharging when measured value drops below discharge threshold, supporting generation output.

Load Following

Similar to peak shaving but discharge target determined by reference measurement at activation moment.

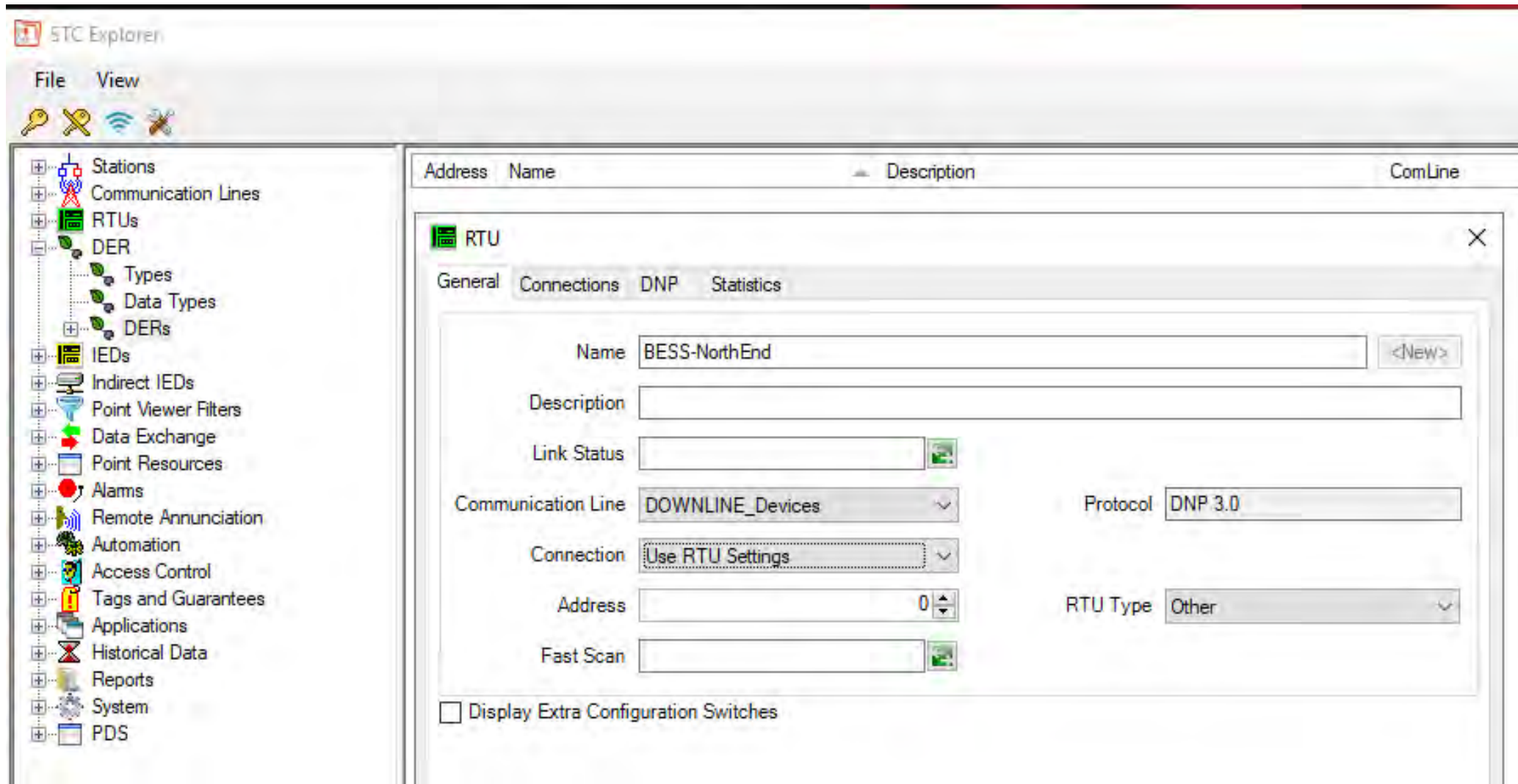


Survalent.

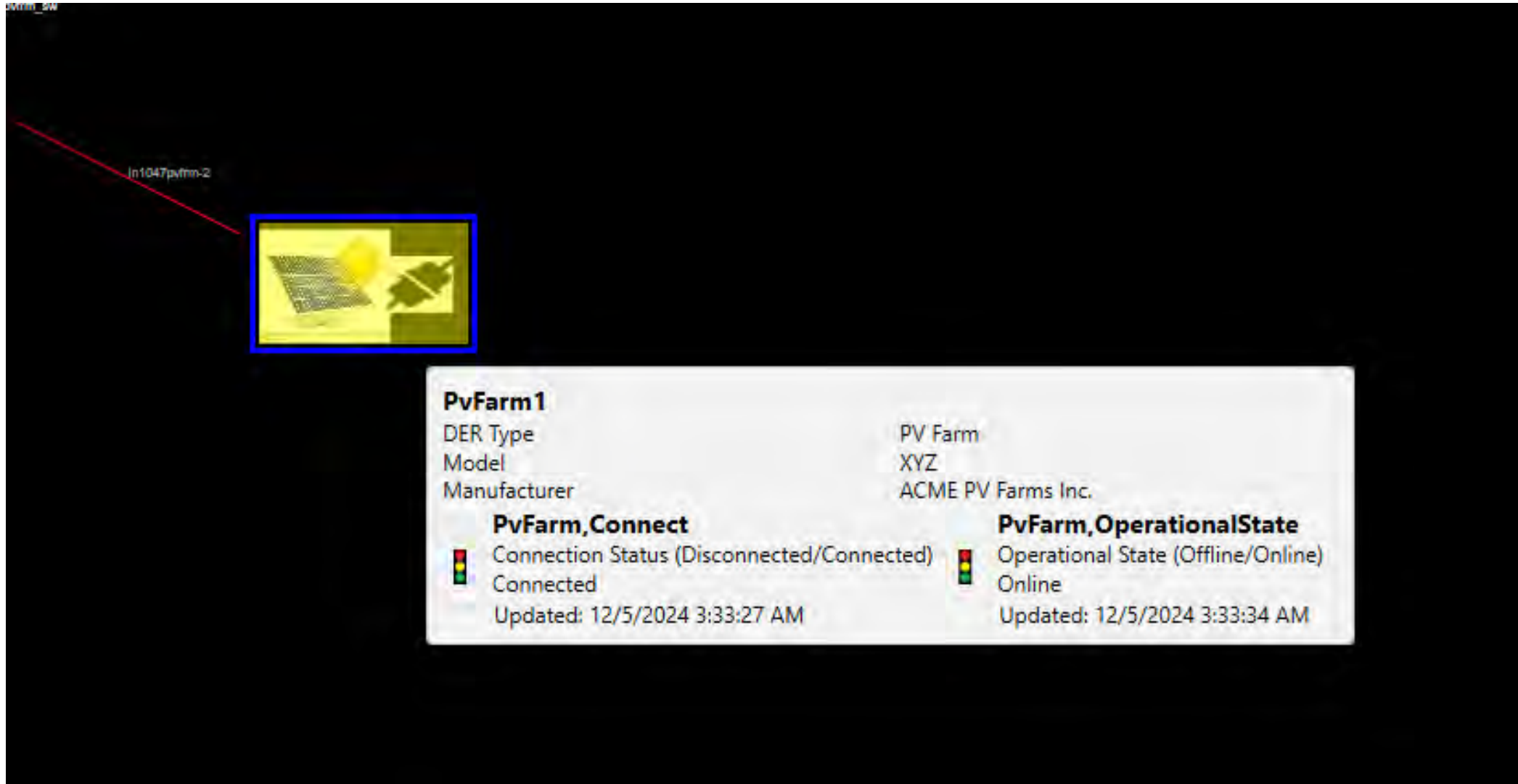


Insight to SurvalentONE DERMS

SurvalentONE DERMS: STC Explorer



SurvalentONE DERMS: SmartVU Visibility



SurvalentONE DERMS: SmartVU Searchability

System Summary

Analog Status Tag Tag History **DER** Weather

Filter

Station/SubStation Transformer
None ☒ FTM ☐ BTM

Feeder
None ☒ Real-time ☐ As-built

Downstream From
☒ Show Aggregated Totals

DER Type
All Types

Apply Clear Filter Find in Map

Select Columns

Name	Type	Feeder	Comm St	Connect S	Operatio	Active Power	Reactive Power	Voltage	SOC
PvFar...	PV Farm		Failed	Conne...	Online				
Source	Source	Line_T...	Failed	Disco...	Offline	Multi-Phase: 0	Multi-Phase: 0	Multi-Phase: 0	Mul

SurvalentONE DERMS: DER Visibility

DER AssetsDER GroupsFindscada >

Find

Service locationTransformerSwitchDERStreetlight

||||| Name Name

Solar

Description Description

Search

Results (35)

SP-1001

DER Details

Solar Panel #1001

Solar

SP-1004

DER Details

Solar Panel #1004

Solar

SP-1005

DER Details

Solar Panel #1005

Solar

SP-1006

DER Details

Solar Panel #1006

Solar

The map displays a residential area with streets including Applewood Drive, Cherryhill Road, Meadowood Crescent, Hixon Street, Belyea Street, and Bronte Road. Numerous colored dots (blue, red, green) are scattered across the map, representing different DER assets. Lines connect these dots to a central point, indicating their connection to the grid. The map also shows a green area, possibly a park or undeveloped land, and a yellow area, possibly a school or commercial zone. The map is overlaid with a grid of streets and property lines.

SurvalentONE DERMS: DER Visibility

DER Assets

DER Groups

Find

scada >

SP-1001

Solar

Der Info

Name	Type	ID
SP-1001	Solar	1
Description	Transformer	
Solar Panel #1001	911	

> Service Location

> Utility Info

> Device Info

DER SP-1001

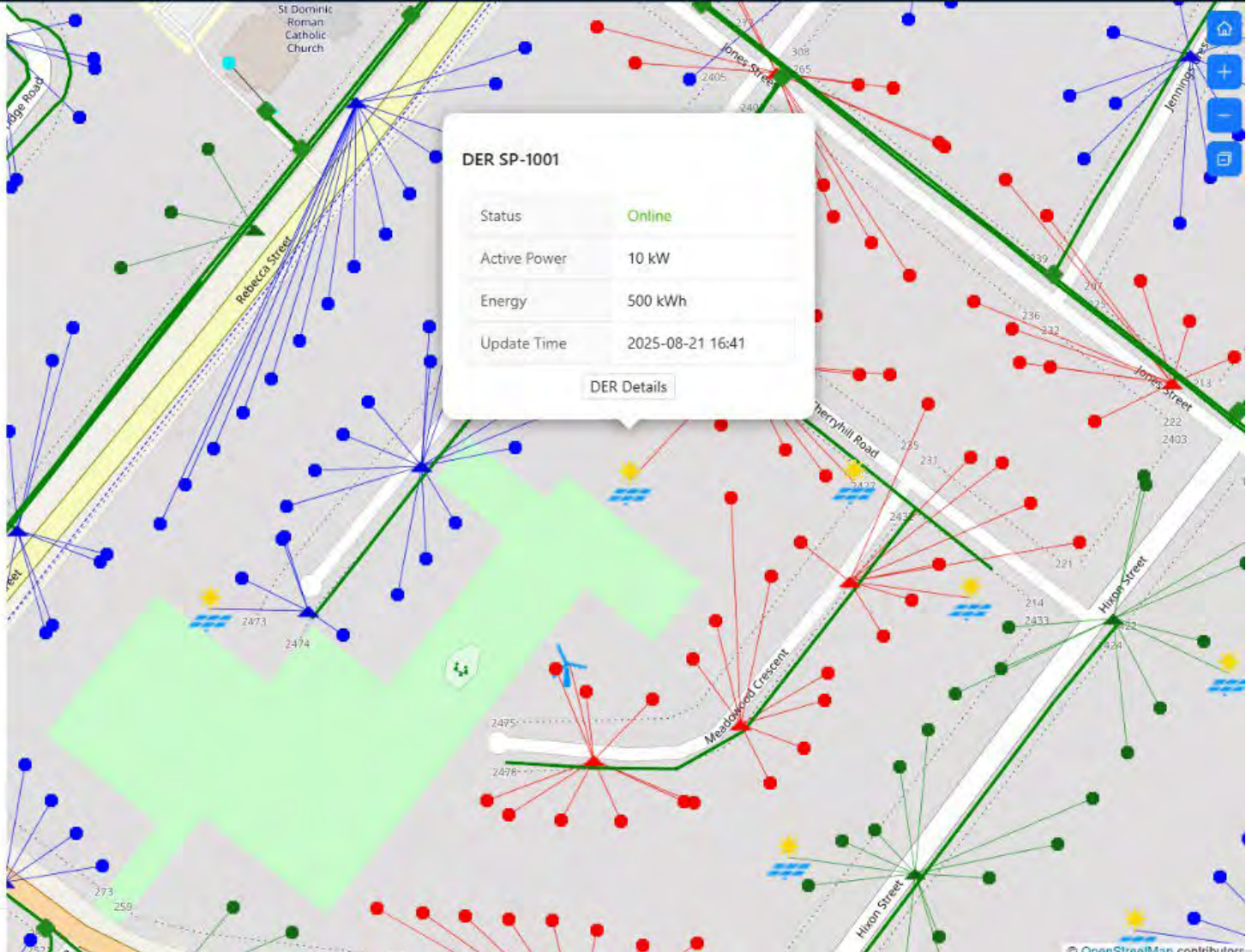
StatusOnline

Active Power10 kW

Energy500 kWh

Update Time2025-08-21 16:41

DER Details



SurvalentONE DERMS: DER Groups



SurvalentONE DERMS: Program Definitions

The screenshot displays the SurvalentONE DERMS interface. At the top, there is a navigation bar with tabs for 'DER Assets', 'DER Groups', 'Programs', and 'Find'. The 'Programs' tab is currently selected. Below the navigation bar, a list of programs is visible, including 'Frequency Control 2', 'test program', 'test program 2', 'test program 3', 'Frequency Control 3.0', and 'Frequency Control 3.0 program.'. A 'Program Form' dialog box is open in the center, allowing for the creation or editing of a program. The dialog box contains the following fields:

- Name:** A text input field containing 'Voltage Control'.
- Primacy:** A text input field containing '1'.
- Description:** A text input field containing 'Voltage Control Program.'.
- Save & Close:** A blue button at the bottom of the dialog box.

The background of the interface shows a map of a residential area with various streets and landmarks. The map is overlaid with a grid of colored lines representing different DERMS zones or boundaries. The map is titled 'Map' and includes a 'scada' link in the top right corner.

SurvalentONE DERMS: Default Controls

The screenshot displays the SurvalentONE DERMS interface. At the top, a navigation bar includes 'DER Assets', 'DER Groups', 'Programs' (selected), and 'Find'. A 'scada >' link is in the top right. The main content area is titled 'Derms Demo' with a link icon. On the left, a sidebar shows a tree view with 'Details', 'Controls', 'Linked Groups', and 'Default Control'. The 'Details' section is expanded, showing 'mRID: 7A2438D182B9C331EA80968BC0000E89C', 'Priority: 0', and 'Description: Derms Demo Program.' Below this is an 'Update' button. The 'Default Control' section is also expanded, showing a table with two columns: 'Fixed Power Factor Injection (W)' and 'Ramp Tms'. The table has three rows: 'Multiplier: 5', 'Displacement: 5', and 'Excitation: true'. The 'Ramp Tms' column has a value of '10'. A 'Control Form' modal is open in the center, containing the following fields and buttons:

- Control Form** (Title)
- Ramp Time (Seconds)**: Input field with value '10'.
- Control Type**: Dropdown menu with 'Maximum Limit (W)' selected and an 'Added' status indicator.
- Type**: Input field with value '20'.
- Buttons**: 'Update Control' (blue), 'Remove' (blue), and 'Update Control' (blue).

The background map shows a residential area with streets like 'Dixie Road', 'North Park Drive', and 'Highway 410'. A 'Back' button is at the bottom left of the map area.

SurvalentONE DERMS: DER Dispatch

DER Assets DER Groups Programs Find scada >

Frequency Control 2 [🔗](#)

Delete Program

Details

mRID: 878ADDD3F985C8498AE524680000E89C

Primacy: 0

Descriptions:


Controls

Add Control


- Control 1 Scheduled
- Control 2 Scheduled
- Control 3 Scheduled

> Linked Groups

Control Form

Start Time: 2025-09-12 00:00  Duration (Minutes): 20

Control Status: Scheduled

Control Type: Frequency Droop 

Deadband Offset Frequency: 10

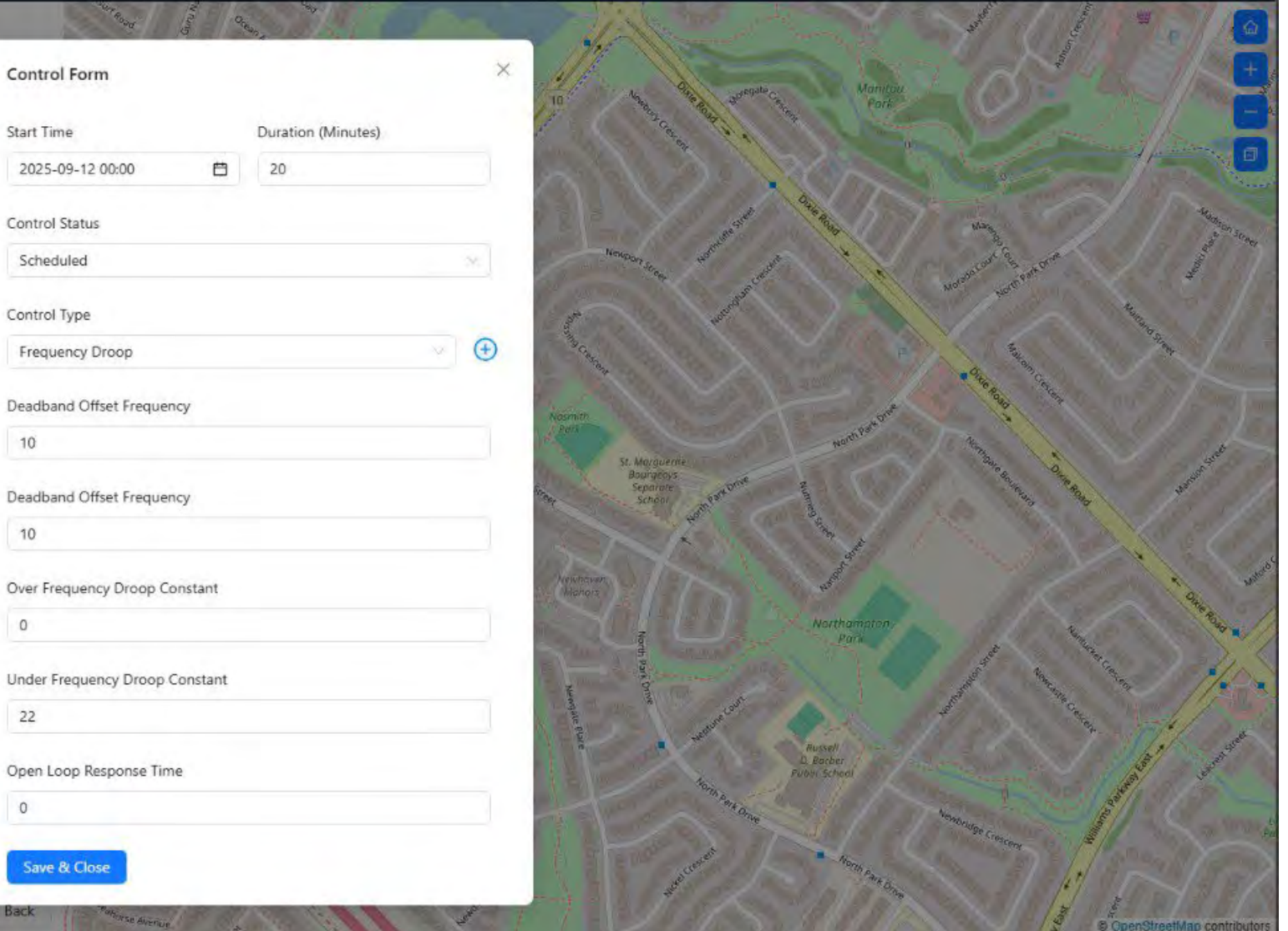
Deadband Offset Frequency: 10

Over Frequency Droop Constant: 0

Under Frequency Droop Constant: 22

Open Loop Response Time: 0

Save & Close



SurvalentONE DERMS: DER Dispatch

DER AssetsDER GroupsProgramsFind

scada >

Frequency Control 2

Delete Program

Details

mRID: B78ADD3F985C8498AE52468000E89C

Primacy: 0

Descriptions:

Controls

Add Control

Control 1 Scheduled

Fixed Power Factor Absorption (W)

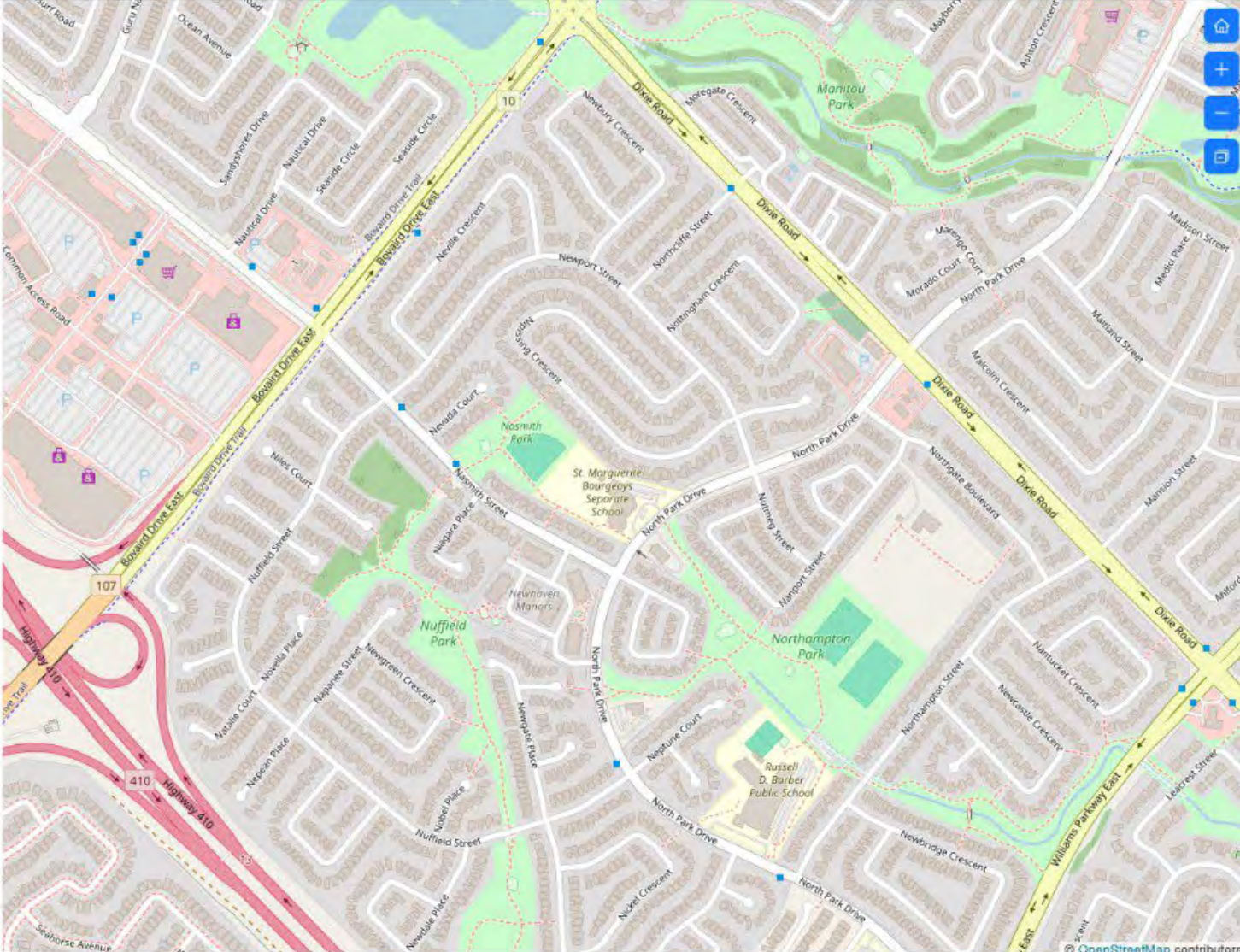
Connect

Control 2 Scheduled

Control 3 Scheduled

Frequency Droop

Linked Groups



Back

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Next Steps: Your DERMS Journey

Come talk to us..



Hasnain Mirza

Product Manager, Real-Time Grid Operations and
DERMS



Rodrigo Pinetta

Vice President of Product Management



Questions?

Thank You