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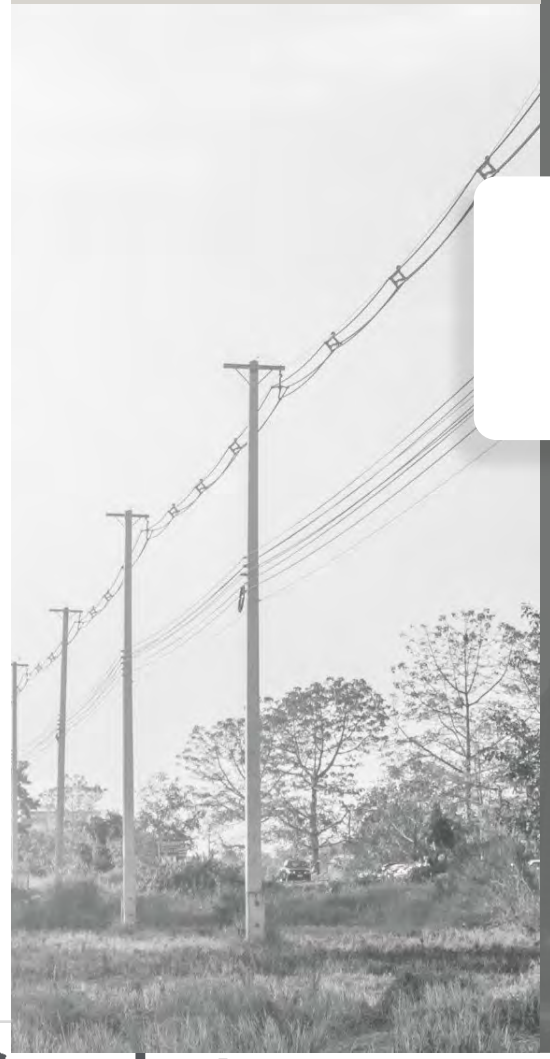


SurvalentONE DERMS

Smarter Management of Distributed Energy Resources

Hasnain Mirza, Product Manager

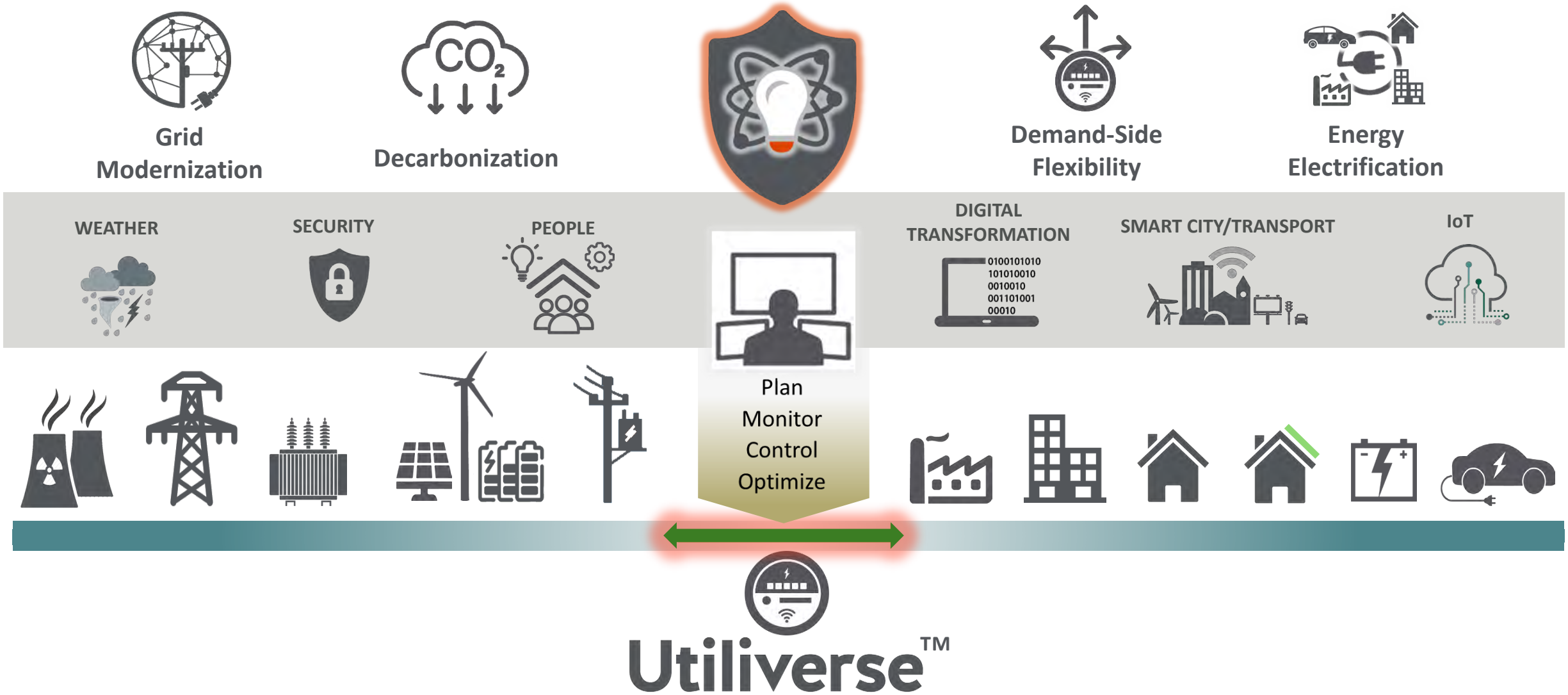
Disclaimer

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



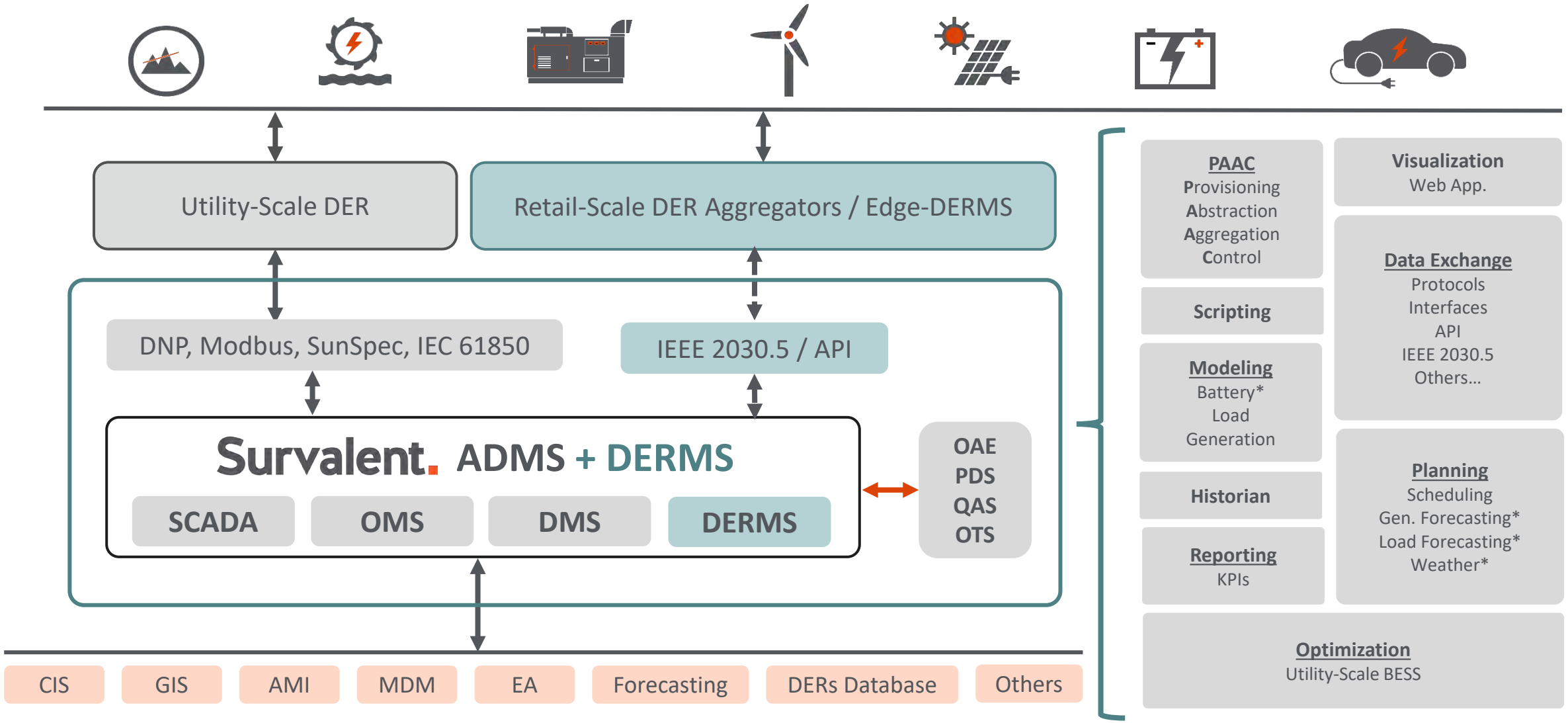
The Challenge: A Grid Under Pressure

- **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

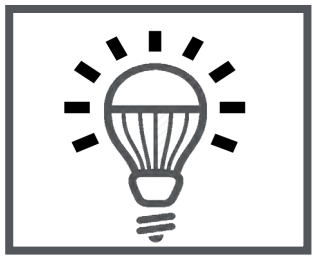
- ADMS stands for Advanced Distribution Management System. For our clients, this system is the single pane of glass for all their distribution grid operations.
- It's built on a foundation of SCADA, which provides real-time monitoring and control of traditional grid assets like switches, reclosers, and 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

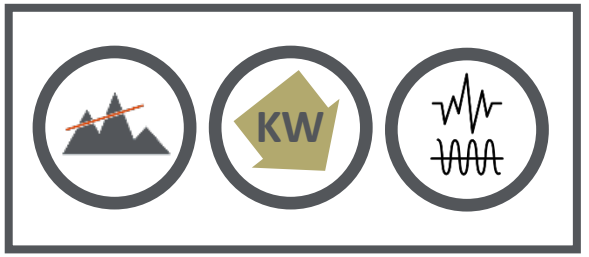


Why ADMS and DERMS Must Work Together

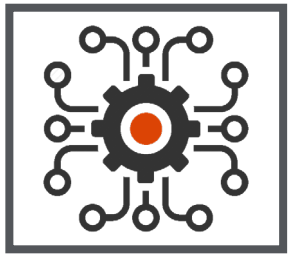
1. Visibility & Control
SCADA - DR



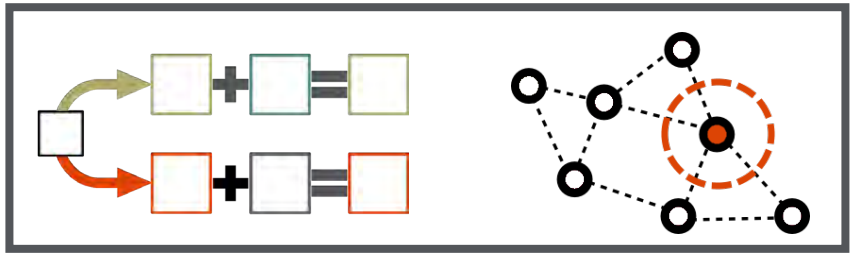
2. Outage Management
OMS



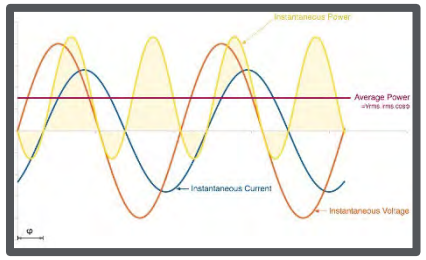
3. Utility Objectives
Peak & Demand Response, Voltage & Freq Regulation



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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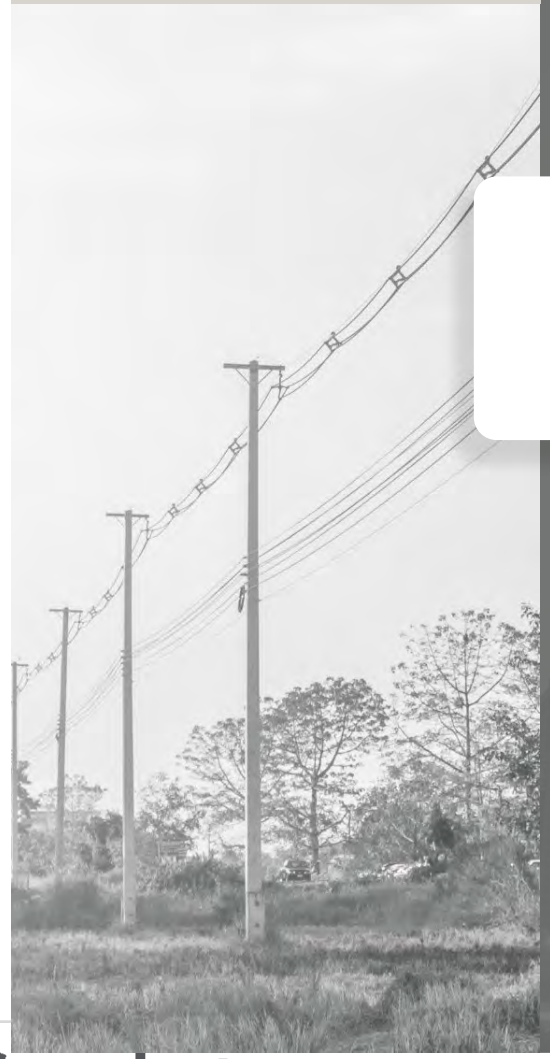

SurvalentONE DERMS Roadmap

SurvalentONE DERMS: Evolution

Phase 1: Foundational Visibility

1

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 2: Initial Control Capability

2

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 3: Optimized Scheduling & Forecasting

3

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 4: Advanced Grid Optimization

4

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.

Phase 5: Autonomous Operations & Market Integration

5

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

Key DER Communication Protocols

IEEE 2030.5	**SunSpec Modbus**	**DNP3**
IEC 60870 *	**IEC 61850**	**IEEE 1547**

SurvalentONE DERMS: Where are we now

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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.

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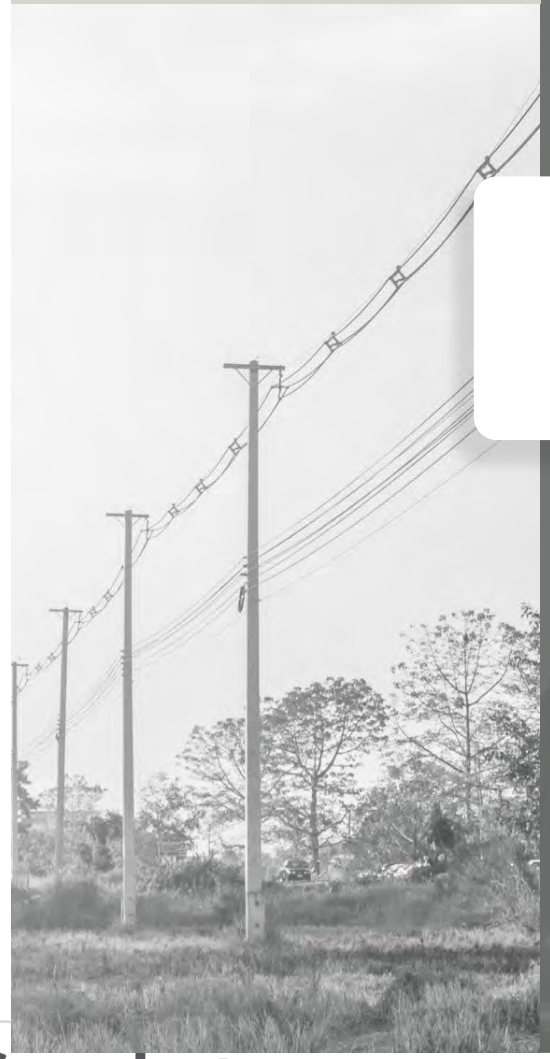
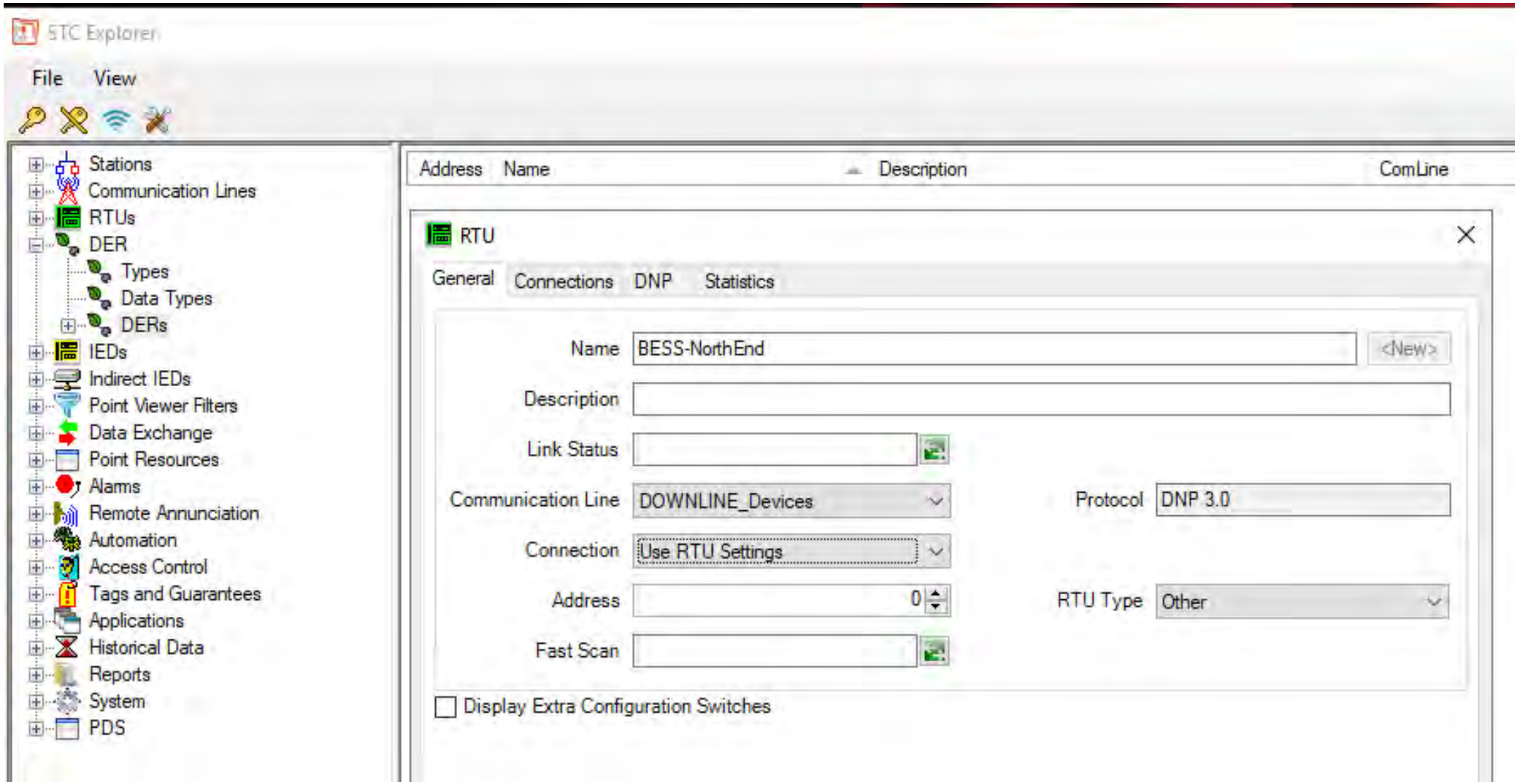
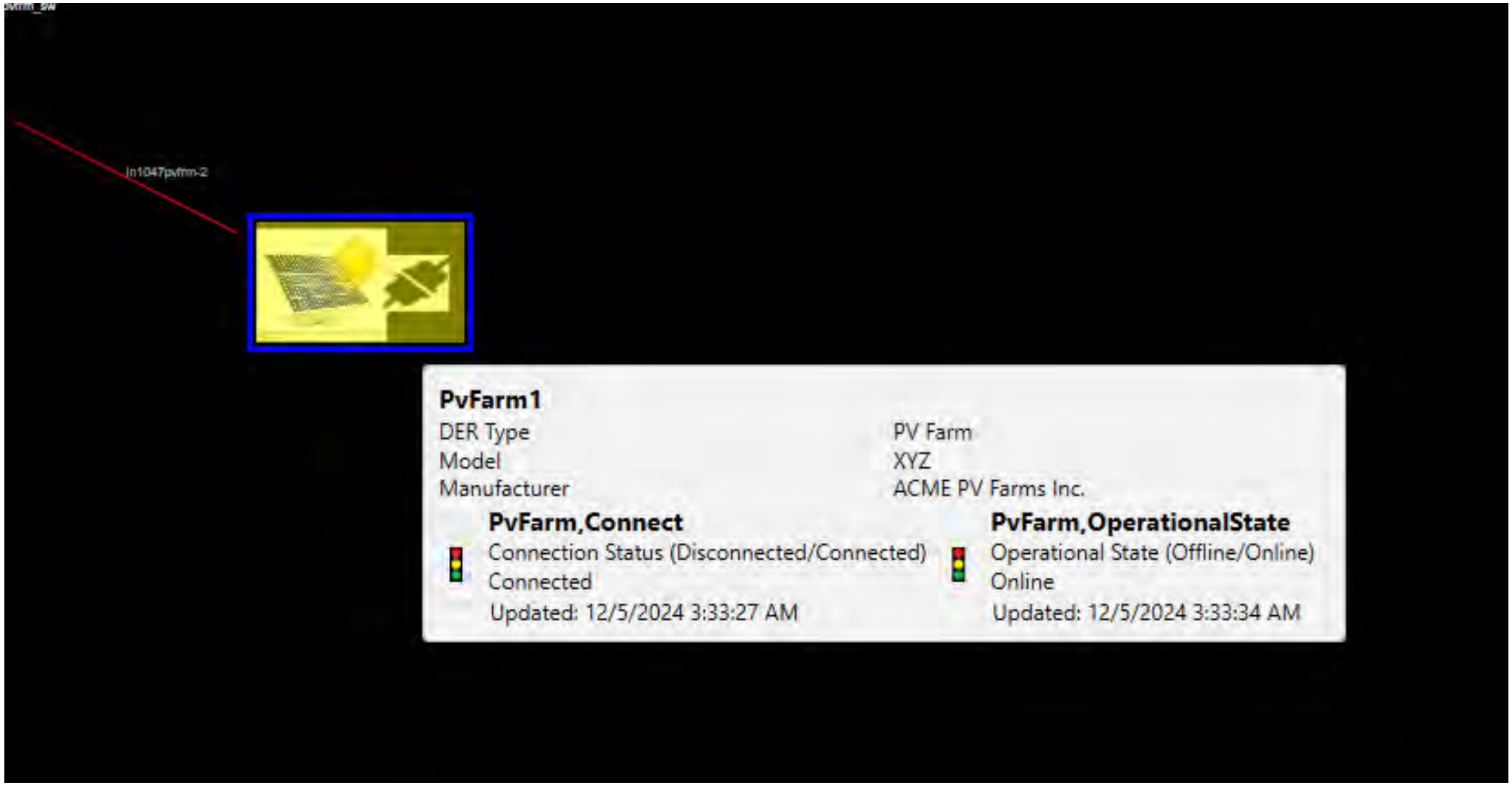


Insight to SurvalentONE DERMS

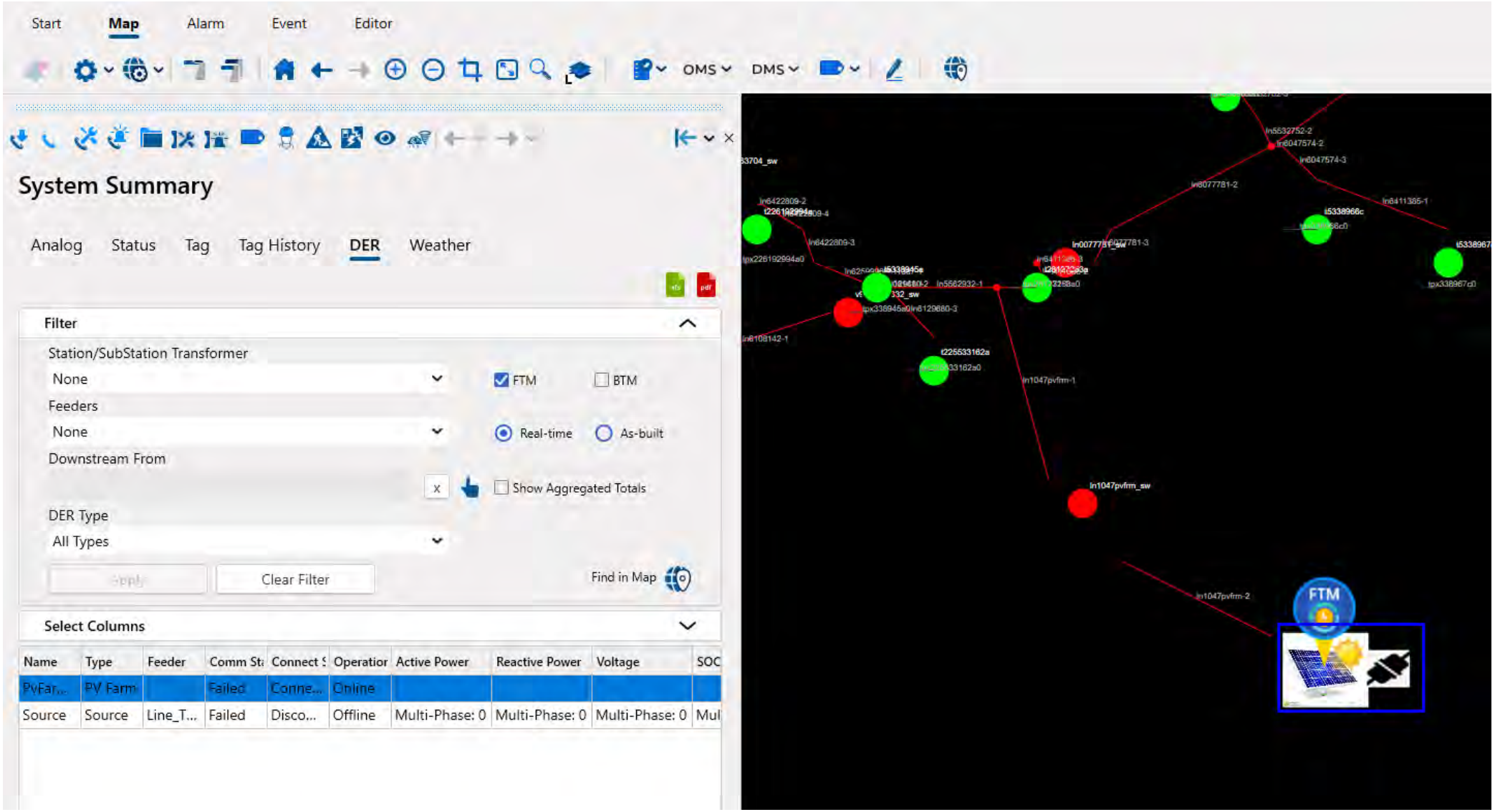
SurvalentONE DERMS: STC Explorer



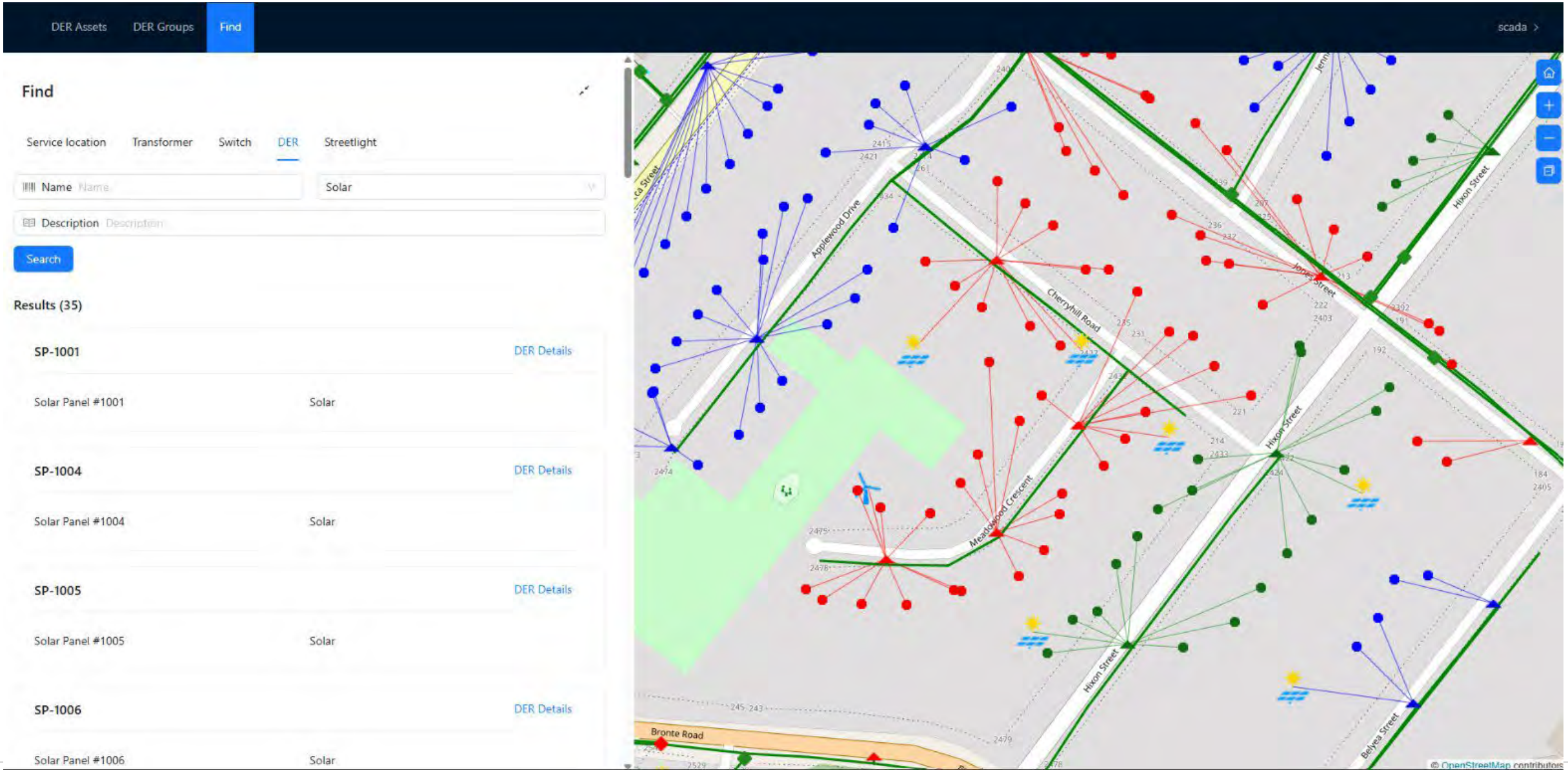
SurvalentONE DERMS: SmartVU Visibility



SurvalentONE DERMS: SmartVU Searchability



SurvalentONE DERMS: DER Visibility



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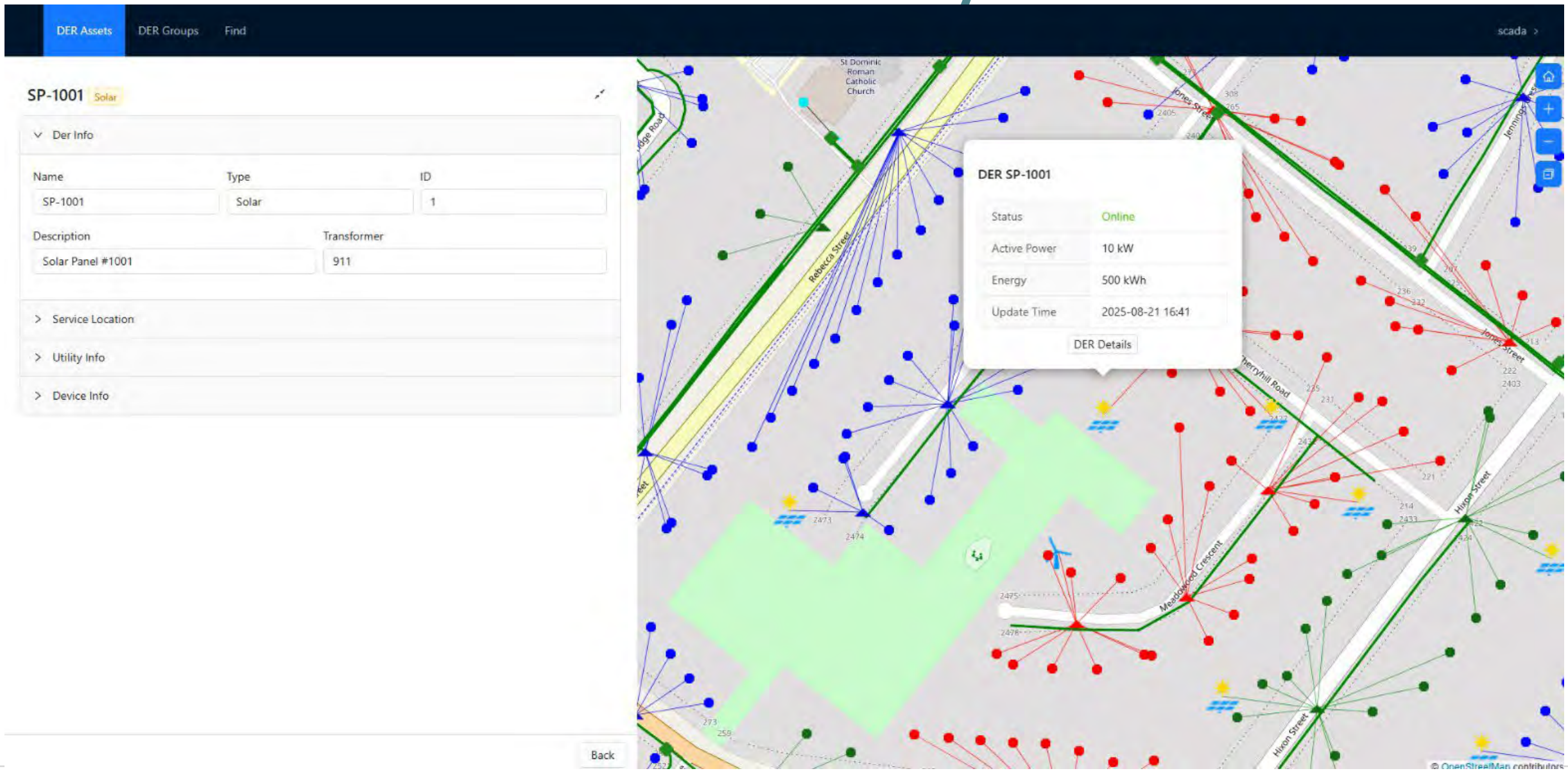

SurvalentONE DERMS: DER Groups

DER Assets | DER Groups | Aggregators | Programs | Find | scada >

DER Groups

Group #1	Show DER Group	**Group #2**	Show DER Group
DER Group A - Solar Panels	**Solar**	DER Group B - Battery Storage	**Wind**
Group #3	Show DER Group	**Group #4**	Show DER Group
DER Group C - EV Chargers	**Biomass**	DER Group D - Wind Turbines	**Solar**
Group #5	Show DER Group	**Group #6**	Show DER Group
DER Group E - Mixed DER Assets	**Solar Farm**	DER Group F - Large Scale Battery	**Wind**
Group #7	Show DER Group	**Group #8**	Show DER Group
DER Group G - Commercial Solar	**Solar**	DER Group H - Residential Solar	**Solar**
Group #9	Show DER Group	**Group #10**	Show DER Group
DER Group I - Microgrid Pilot	**Solar Farm**	DER Group J - Utility Battery Bank	**Wind**

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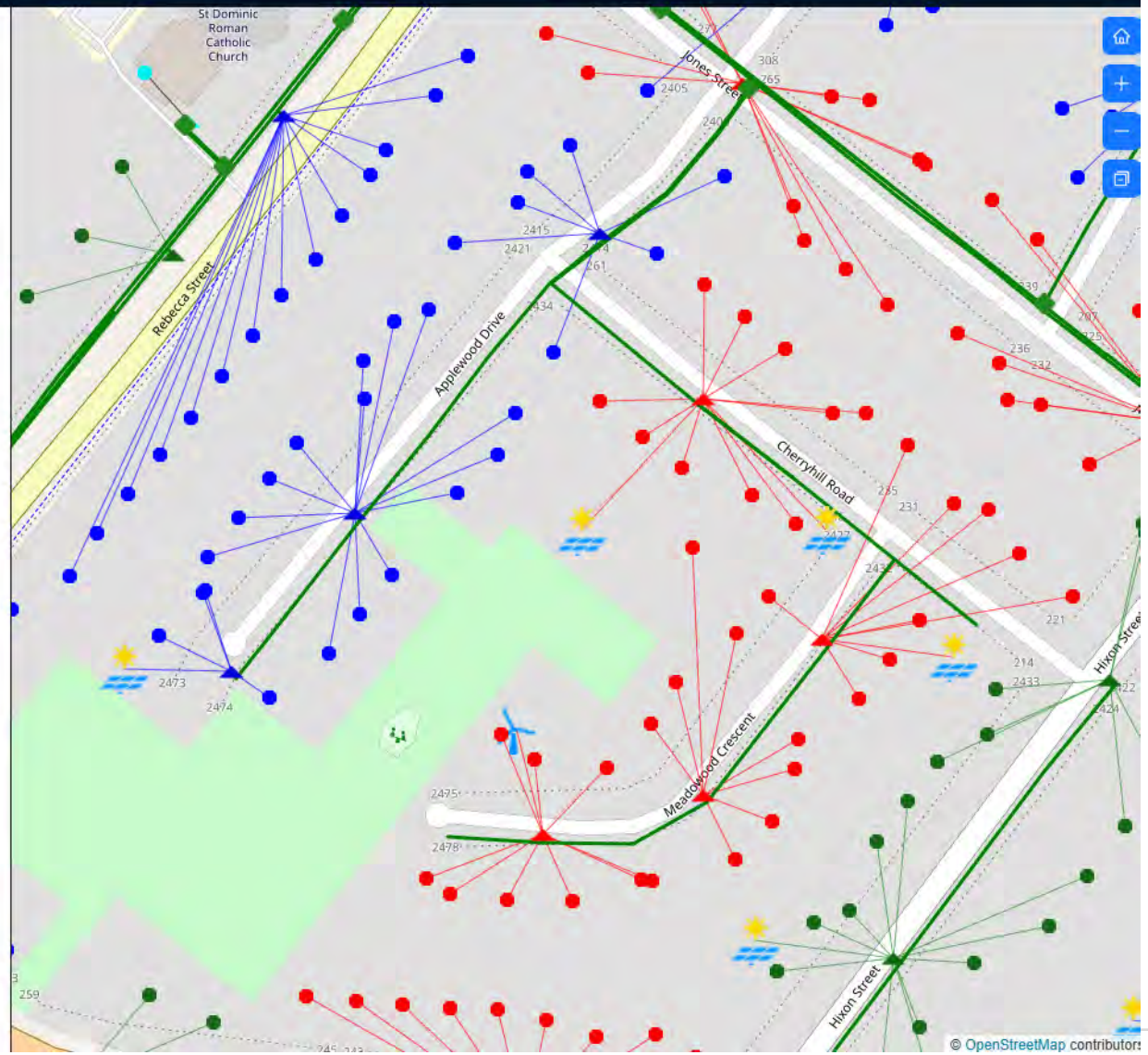
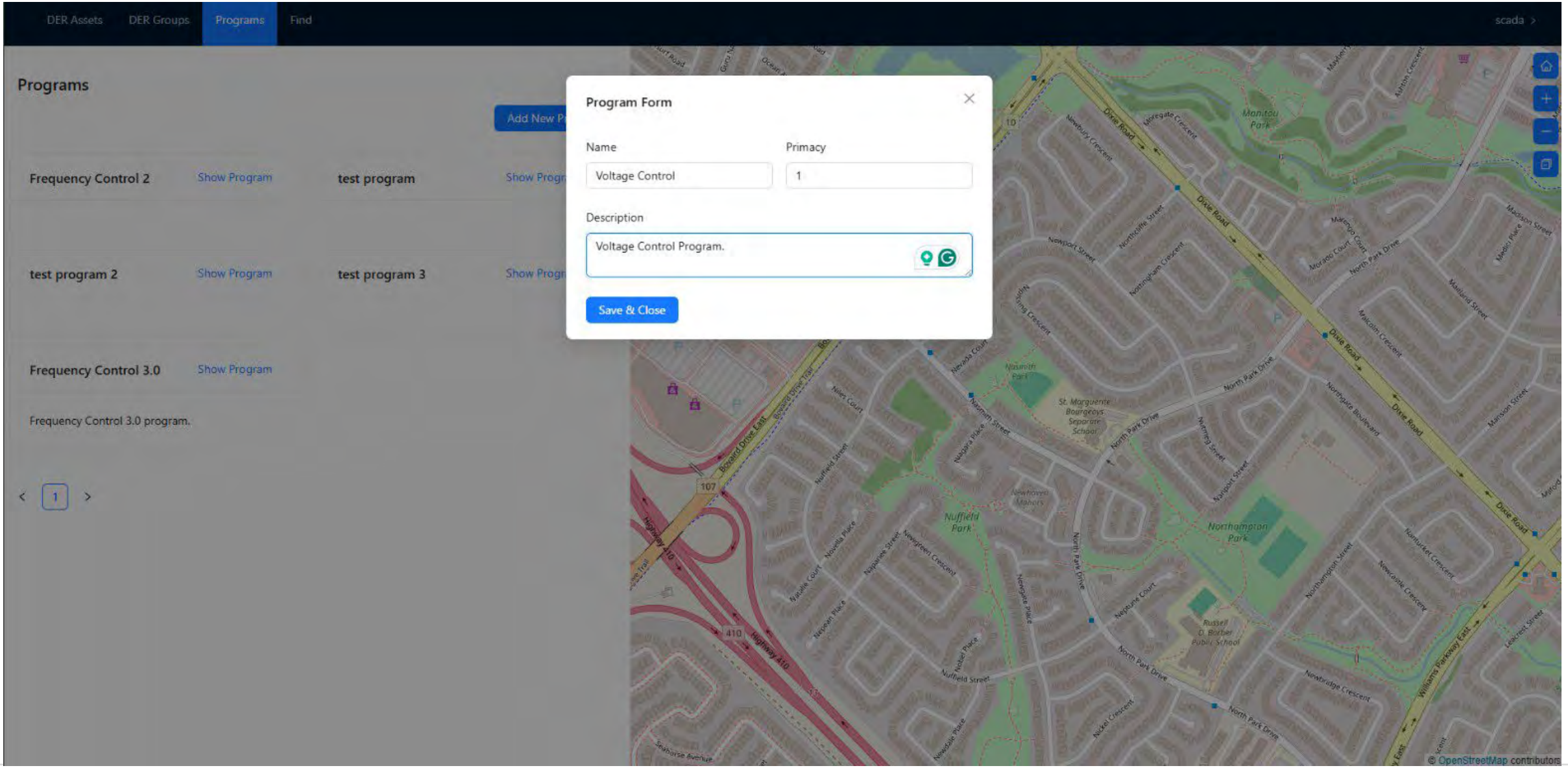
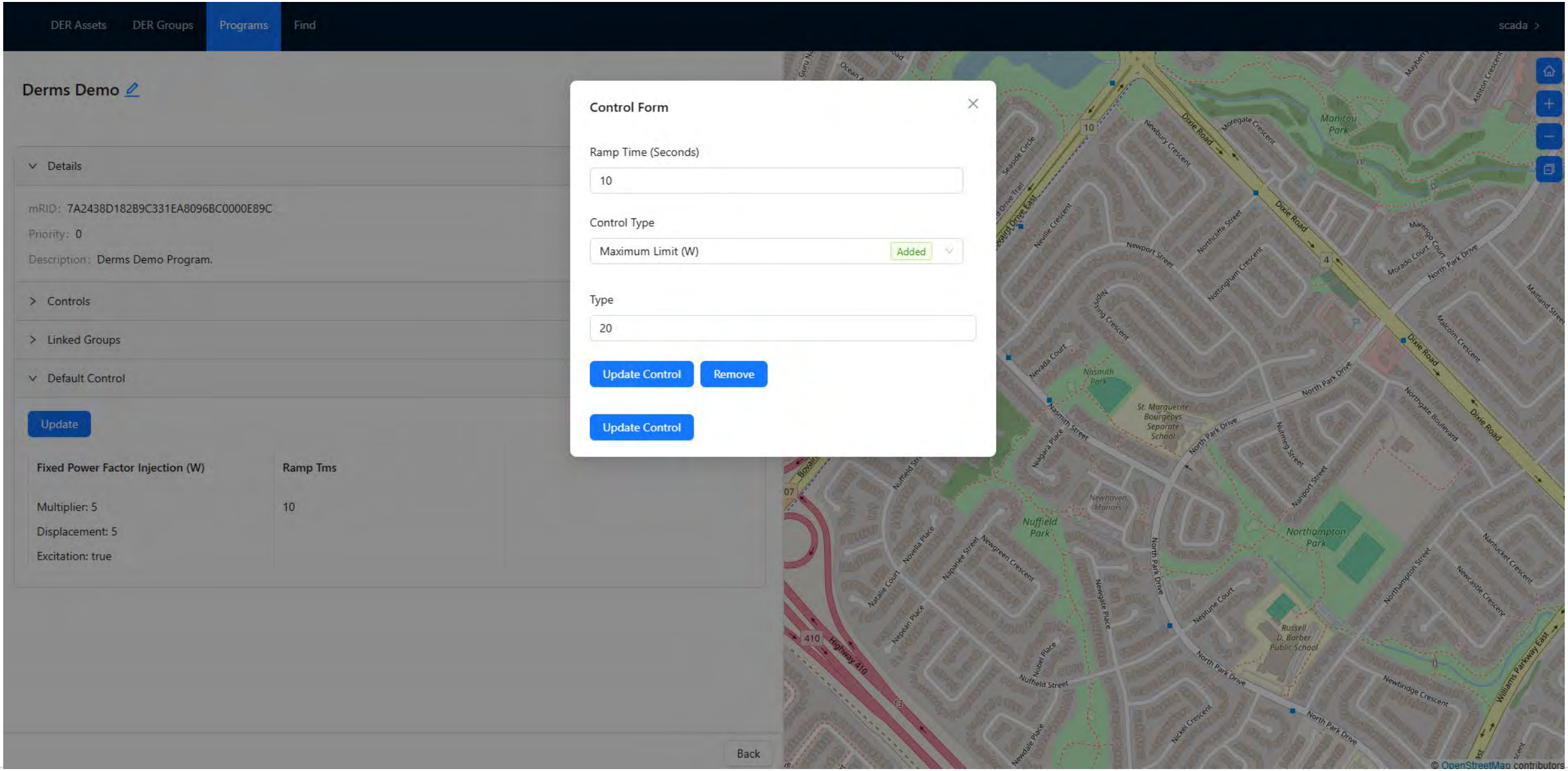


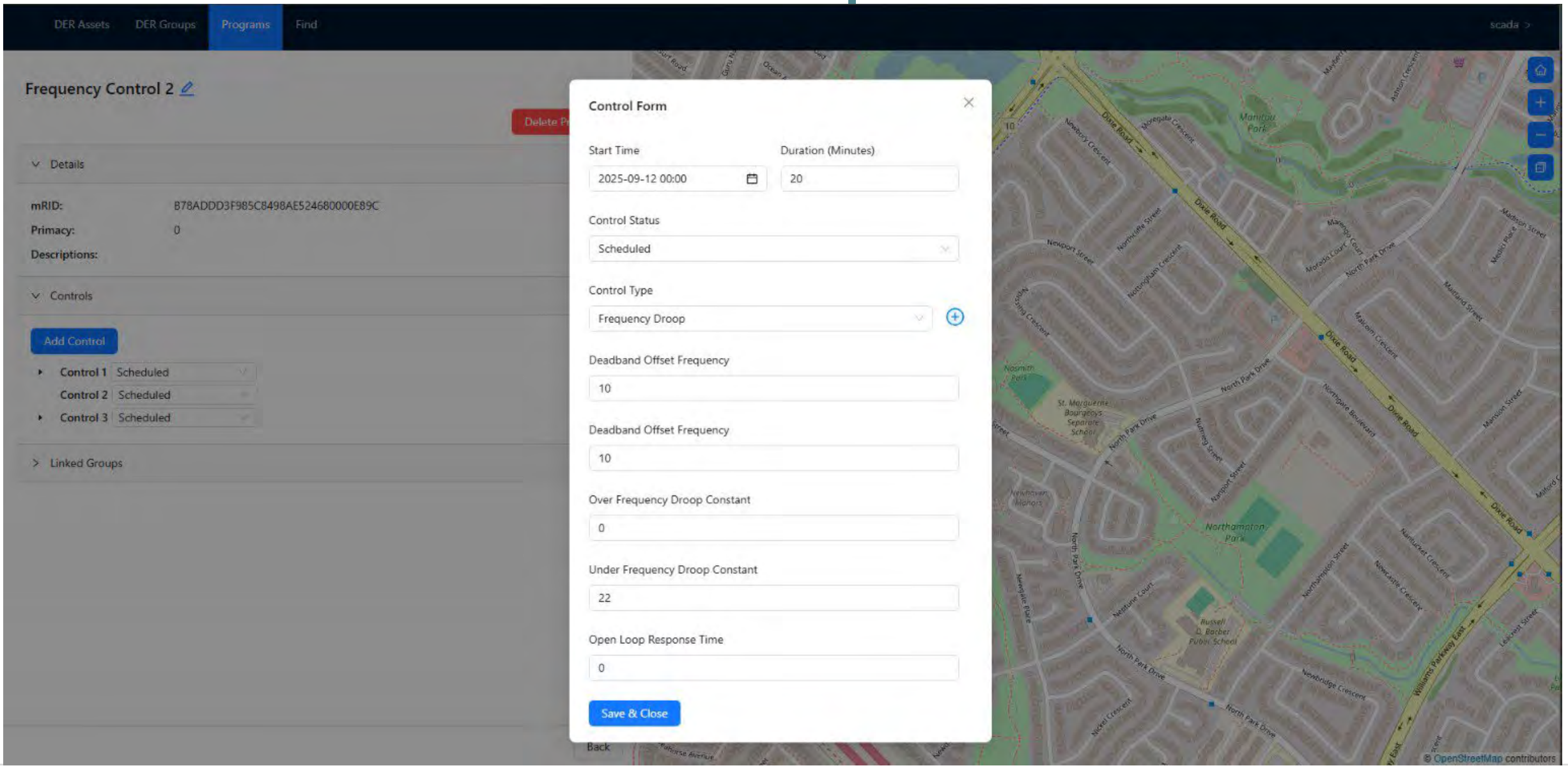
SurvalentONE DERMS: Program Definitions



SurvalentONE DERMS: Default Controls



SurvalentONE DERMS: DER Dispatch



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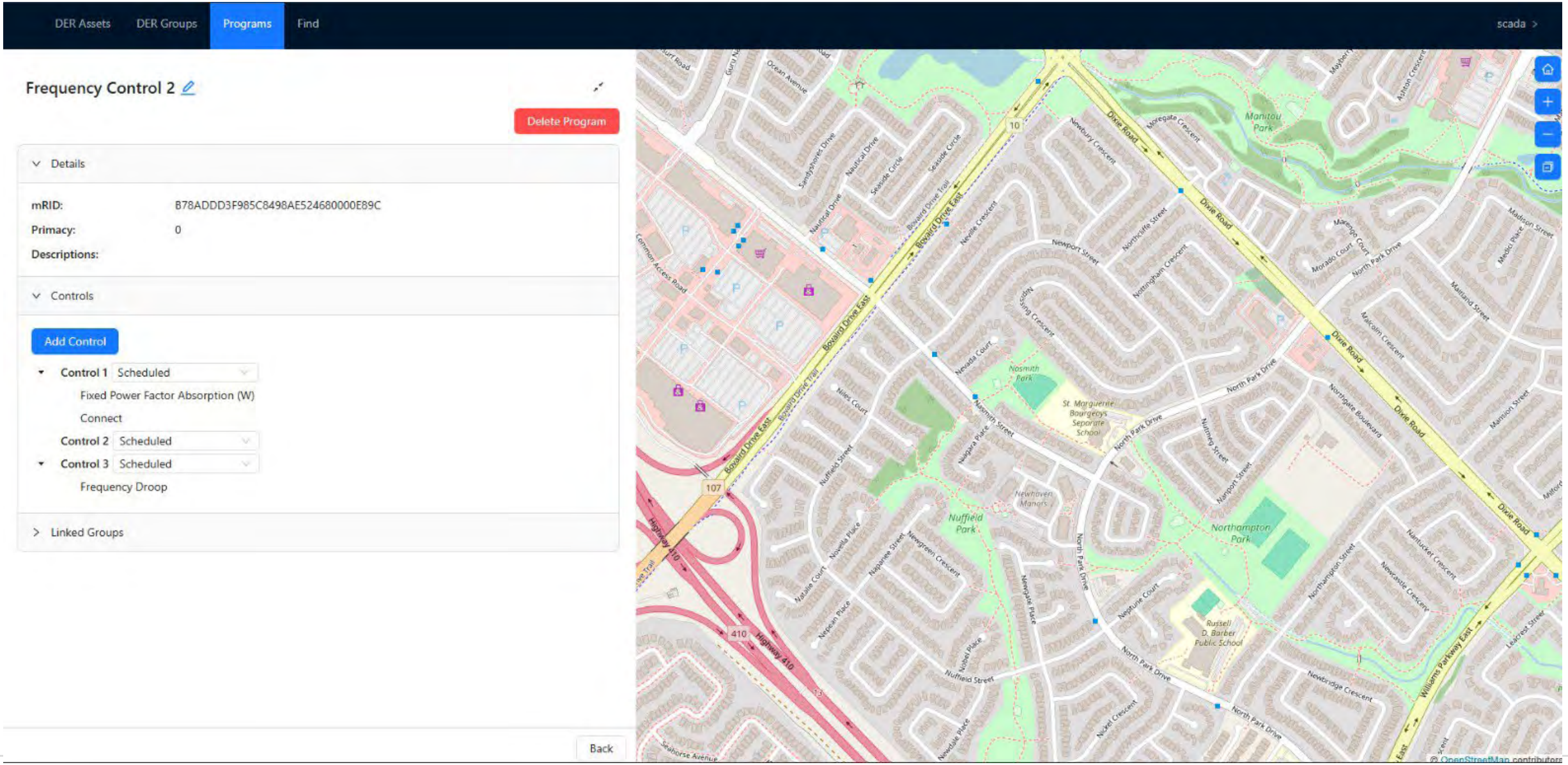

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Next Steps: Your DERMS Journey

Come talk to us..

Hasnain Mirza
Product Manager, Real-Time Grid Operations and DERMS

Rodrigo Pinetta
Vice President of Product Management

Survalent.

Questions?

Thank You