Home Energy Ecosystem

dcbel

Personalized Energy Experience

APP HUB
Apps & Energy Programs

Local Energy Programs

Energy Market

Utility Services

3rd Party/OEM Management

Grid Services

Admin Functions

CHORUS
IoT & Technical Aggregation

User Monitoring & Control

IoT APIs

CRM

CSIP IEEE 2030.5

Control Center

dcbel Mobile Portal

Digital Twin Simulators

Technician Console

Partner Mobile Apps & Control Interfaces

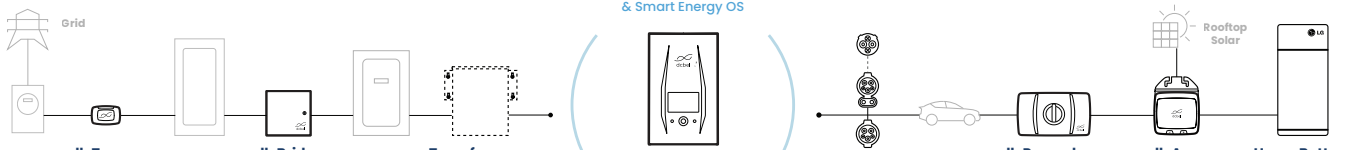
Residential Energy Marketplace

Smart Home Energy Management

Software-first Energy Management

ORCHESTRATE
Grid-edge Computing & Smart Energy OS

Behind-the-meter Data & Services



db Tempo
Home Energy Monitoring

db Bridge
Home Islanding

Transformers

Ara

DC/AC Charging Connectors

db Powerdown
Rapid Shutdown System

db Amp
DC Optimization

Home Battery
Energy Storage

AUX
Safe & Seamless Integration

HOME ENERGY STATION
Next Gen Multi-functional Hardware

Bidirectional EV Charging • Solar Power • Energy Storage • Blackout Power

AUX
Safe & Seamless Integration

db Maestro
DER Comms + Electrical Safety

db Orchestrate
Executes dcbel Operating System

db Digital Multilevel Inverter
AC<>DC Power Conversion

• Device agnostic •
• Vertically integrated •
• Intertek certified to UL standards •

5 Cornerstone PATENTS

Granted in 50 countries
10+ PCT patent pending

App Ecosystem

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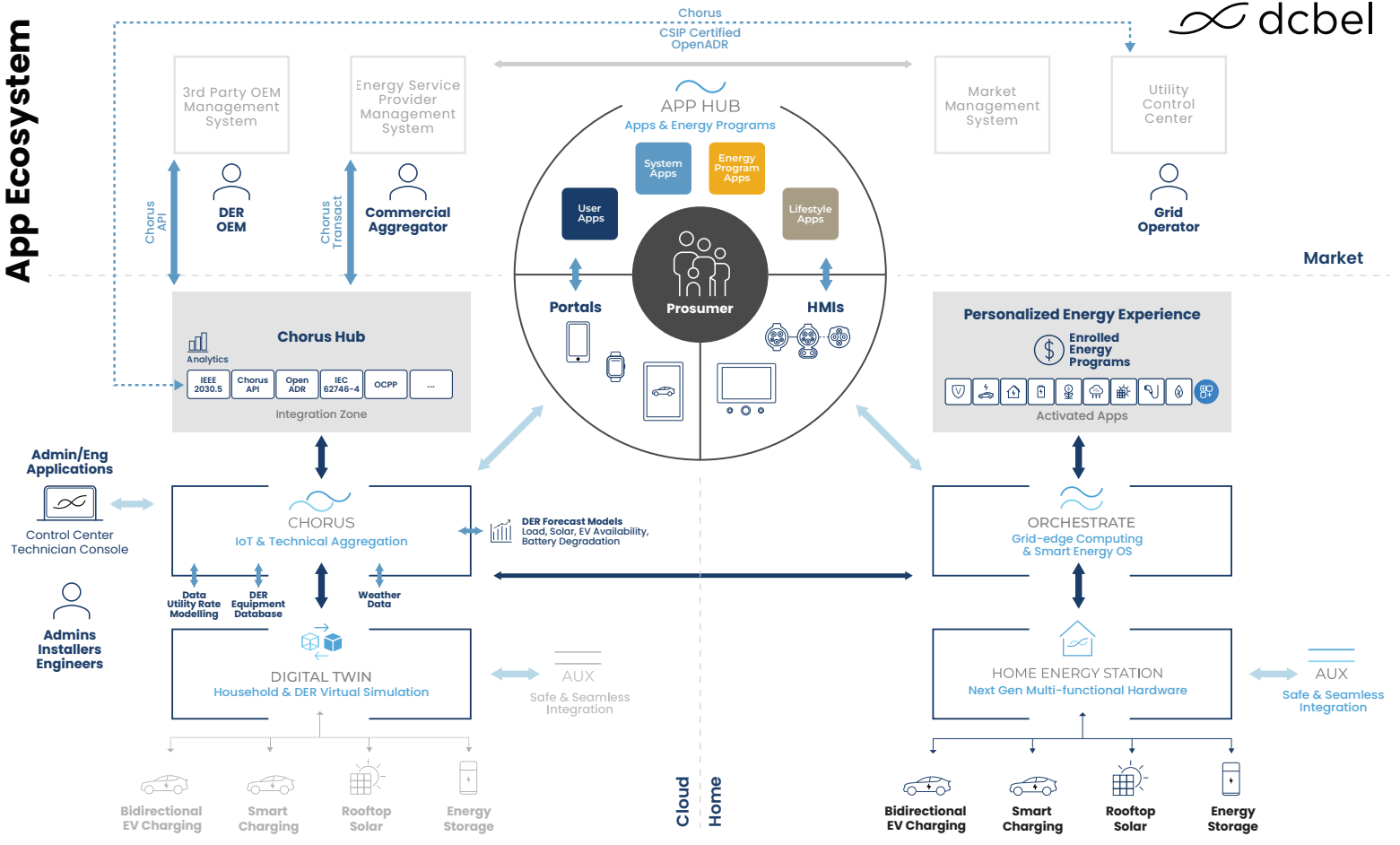

Apps

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The dcbel decentralized computing architecture was designed to support an unlimited number of diverse Apps running locally or on the cloud. Each App is developed, deployed and maintained independently while being able to communicate with other Apps. This flexible architecture allows both dcbel and 3rd party developers to seamlessly integrate new protocols and features as the energy market and business objectives evolve.

Home Energy Station features and capabilities.

User Apps

Active Energy Management
View energy metrics that provide visibility on active system performance.

Self-consumption
View live and historical solar production, home battery charging and net-zero activity.

EV Charging
View and manage live and historical EVDC and EVAC charging.

Peak Shaving & Blackout Power
View and manage live and historical EVDC and Home Battery discharge activity.

Costs & Emissions Tracking
View and track your energy savings and earnings.

Proactive Energy Management
View forecasted energy consumption and production, and proactive energy management savings.

Events & Reminders
View your past, live and upcoming energy events, recent activity and smart recommendations.

System Apps

Utility rate model

Micro weather data

+

Advanced Analytics
Run in the background and can exist without a UI.

Developed by partners and arm's length developers who wish to leverage the Home Energy Station's wealth of available data, home-edge computing power, unique location at the gateway of the home and more.

Energy Program Apps

Partner apps that allow users to be compensated for energy market participation and require the enrollment and acceptance of terms and conditions directly with the Flexibility Program Provider.

V1G V2H/V2G

Solar & Storage

Demand Response

Grid Services

+

*Limited to one Energy Program per DER.

Lifestyle Apps

General interest apps that deliver content, entertain or enable productivity.

Smart Home

Entertain-ment

Productivity

Social

+

Software

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Platforms

Orchestrate

Energy operating system that manages connected grid-edge resources efficiently and securely.

App Hub

Platform that allows visitors to discover and download Apps to be used on Orchestrate OS devices.

Mobile Portal

Consumer mobile app that allows users to access personalized energy Apps and monitor, configure and control their Home Energy Ecosystem remotely.

Digital Twin

Platform that provides automated, cloud-based tools to simulate home energy systems and test drive changes against real world conditions.

Chorus Control Center

Web platform that allows administrators to monitor, configure and manage groups of physical and simulated home energy systems.

Chorus Hub

Chorus integration layer that serves as a simple point of operation for corporate partners and the Chorus platform.

Chorus Transact

Bundle of DER-based services that support Flexibility Service Providers in scaling and maximizing the revenue of their Energy Programs.

Consoles

Chorus Technician Console

Powerful tool that allows certified installers to configure dcbel home energy systems, register supporting products and provide troubleshooting support.

Engineering Console

Specialized tool used by a privileged and trained set of partner users to bypass Orchestrate OS logic and send commands to a Home Energy Station.

Ara System

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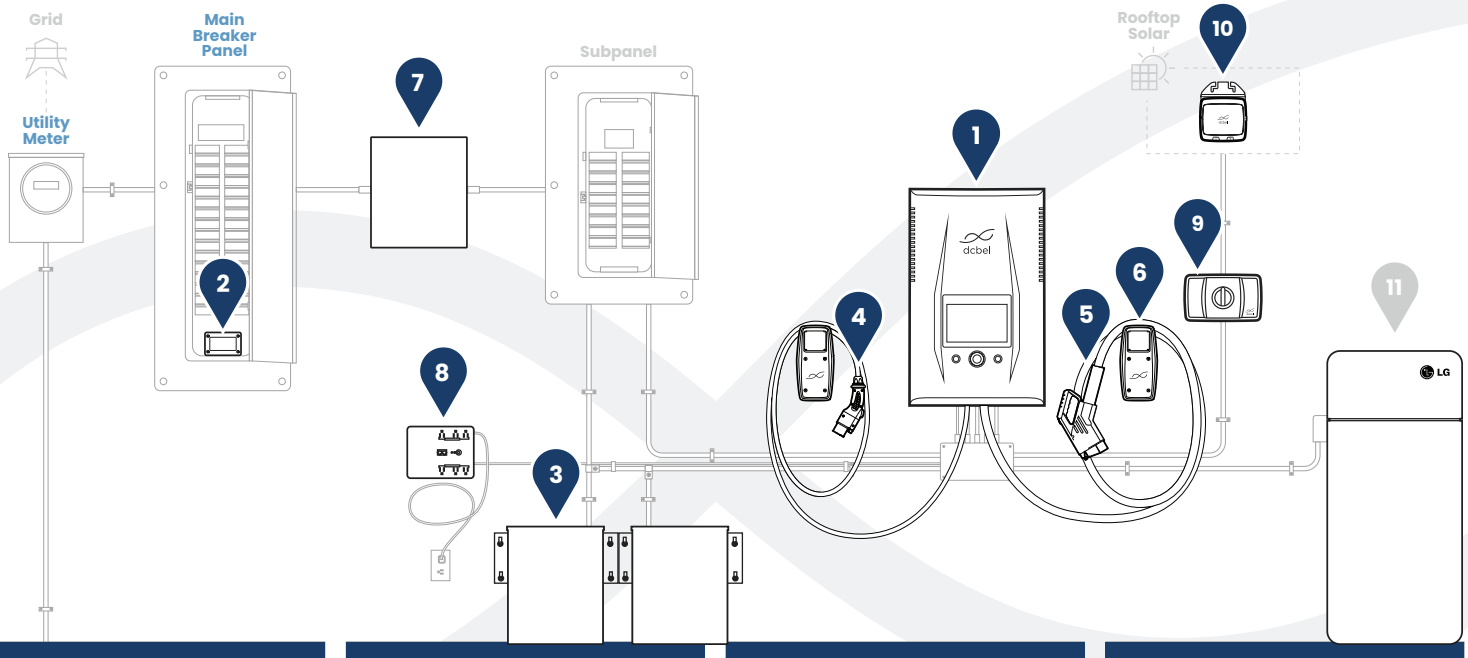

Home Energy Management

1. Ara
2. db Tempo (HEM)
3. Isolation Transformer

Bidirectional EV Charging

4. AC J1772 Type 1 connector
5. CCS Type 1 / DC CHAdeMO Connector
6. Cable Holders

Blackout Power

7. db Bridge (SIS)
8. UPS

Subpanel

Solar & Storage

9. db Amp
10. db Powerdown

11. Home Battery

Hardware

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Stations

Ara

Home Energy Station that provides large single-family homes with ownership of clean, reliable and cost-effective energy through the integration of EV charging and DERs in a single device.

Mia

Home Energy Station that provides the mass market with ownership of clean, reliable and cost-effective energy through the integration of EV charging and DERs in a single device.

Auxiliary Devices

db Tempo

Home Energy Monitor that measures the current, temperature and voltage of the flow of energy to and from the home.

db Bridge

Smart Islanding Switch that automatically identifies when there is a utility outage and islands the home from the grid so it can continue to generate and consume blackout power.

db Amp

DC Optimizer that increases a solar array's power output by tracking and controlling the voltage of each individual panel and can disconnect them for safety.

db Powerdown

Combiner Box and Switch that provides voltage and current control and combines several solar panels so they can all be turned off or on at the same time.

Platforms

db Maestro

Interface controller designed to safely execute commands between a variety of distributed energy generation sources and available loads.

db Orchestrate

Computer module that runs Orchestrate OS and sends power execution commands to db Maestro.

Digital Multilevel Inverter

dcbel inverter / rectifier that leverages our patented software-driven PUC5 power conversion technology and sits at the core of our Home Energy Stations.