AcSELerator Database Search Engine (ADSE)

Started in June 2020

Ready for Demo: August 2020

Designed by Eduardo S. Palma (RTM S&CS) and developed with Microsoft Visual Studio Community 2019 under ASP.NET CORE Framework by Munja Solanke (R&D Intern SDN group)

The Purpose

ADSE is a web application meant to be used as a Sales Tool by its presentation and design.

To create **Sales Opportunities** that are personalized for each Customer. Instead of presenting general SEL solutions to customers interested in SEL products and services.

The Benefit

Use any existing Data-Rich AcSELerator Database as a searchable knowledge to make decisions about your power system.

The Goal

Initially: To **distribute** this software tool to any Salesperson, this includes:

1. Customer / End-user

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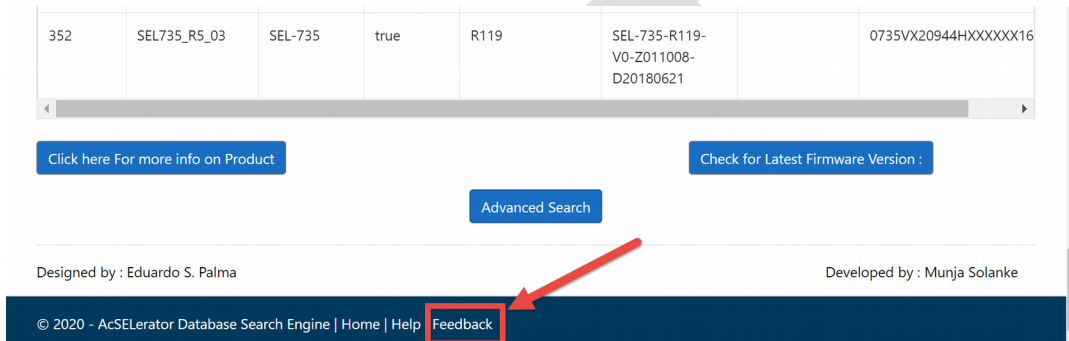**Making Electric Power Safer, More Reliable, and More Economical®**

2. Application Engineers
3. Regional Sales Managers
4. Regional Sales Directors

After several Demos: To get feedback from the field.

SEL employees can use this link: Feedback_ADSE to fill out make a survey in SEL's https://forms.office.com/.

The "Feedback_ADSE" link is also on the footer of the ADSE webpage and it will open the Feeback form.

With this precious feedback we can understand how to improve this software and think out-of-the-box.

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Distribution

The installation file is an executable that runs an installation wizard to C:\Program Files (x86). It contains everything to be able to run the ADSE. The user will have a desktop icon called: "AcSELerator Database Search Engine" that has the SEL Logo. After a command window opens (keep this window open) and then open the ADSE webpage type https://localhost:3000 on your favorite browser.

For troubleshooting or help with installation or demo, please make sure to contact Eduardo Palma or Munja Solanke.

Components:

1. AcSELerator Database Search Engine software. (It is a web application)
2. SEL-5230 AcSELerator Database API (offers read-only access to device data collected by AcSELerator Team SEL-5045 Software)
3. SEL-5231 SEL Configuration API (offers read & write access to device identification information, connection parameters, passwords, and settings that are stored in the AcSELerator Database)
4. AcSELerator Database and Device Manager Plugin, which are part of the SEL-5030 (Quickset) installation package. These are counted as 1 component even though they are more than one.
5. AcSELerator TEAM (SEL-5045) which is not 100% necessary if you collect data/settings/reports manually.

Out of these five components the only one that currently needs licensing is AcSELerator TEAM (SEL-5045). The SEL-5230 and SEL-5231 do not need licensing (per R&D: Nick Frazier & Mike Rourke) if these SEL-API software are queried by a software that resides inside the same PC (localhost). If the SEL-5230 or SEL-5231 software are queried via LAN or WAN then it requires software licensing.

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How to Demo – The Strategy

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Step 1. Use Webi/PowerBI (Customer_Quality_and_Service_Data) to identify the customers that have TEAM software installed and/or use AcSELerator Device Manager as part of their Settings Management, and have Remote communication (Engineering Access) to each of their substations' IEDs.

Customer	Account	Amount	Count	Region
HER SOLUTIONS S.A.C.	ELECTRO ORIENTE SA	$5,150	1	SEL PERU
ELECTROWERKE SA	ELECTRONORESTE SA	$10,500	2	SEL PERU
ENGIE ENERGIA DEL PERU SA	ENGIE ENERGIA DEL PERU SA	$5,250	1	SEL PERU
STATKRAFT PERU SA	STATKRAFT PERU SA	$10,713	3	SEL PERU
ARCELORMITTAL MEXICO SA	ARCELORMITTAL MEXICO SA	$5,292	1	SEL MEXICO
INTERNATIONAL DARAVESA, S	BRASKEM IDESA, S.A.P.I.	$5,000	1	SEL MEXICO
CARGILL DE MEXICO SA DE	CARGILL DE MEXICO SA DE	$2,546	1	SEL MEXICO
ABB	CARGILL INC	$768	12	SEL MEXICO
CELANESE OPERATIONS MEXIC	CELANESE OPERATIONS MEXIC	$2,500	1	SEL MEXICO
CFE GENERACION I EPS	CFE CPTT CENTRAL	$0	20	SEL MEXICO
CFE GENERACION III E.P.S.	CFE CPTT CENTRAL	$1,163	18	SEL MEXICO
DRIESCHER Y WITTJOHANN, S	CFE CPTT CENTRAL	$128	2	SEL MEXICO
EATON TECHNOLOGIES S DE	CFE CPTT CENTRAL	$550	12	SEL MEXICO
E-KEME SERVICIOS Y TRANSF	CFE CPTT CENTRAL	$1,022	16	SEL MEXICO
GE GRID SOLUTIONS SA DE C	CFE CPTT CENTRAL	$2,048	32	SEL MEXICO
INGENIERIA ELECTRICA Y CI	CFE CPTT CENTRAL	$128	2	SEL MEXICO
INTEGRACION DE ENERGIA SA	CFE CPTT CENTRAL	$378	6	SEL MEXICO
SC INGENIERIA, SA DE CV	CFE CPTT CENTRAL	$128	2	SEL MEXICO
SIEMENS	CFE CPTT CENTRAL	$1,280	42	SEL MEXICO
SISTEMAS E INGENIERIA EN	CFE CPTT CENTRAL	$1,374	24	SEL MEXICO
TESLA INGENIERIA SA DE	CFE CPTT CENTRAL	($0)	10	SEL MEXICO
JUAN CARLOS RODRIGUEZ MOR	CFE DDVM CENTRO	$220	4	SEL MEXICO
SIEMENS	CFE DDVM CENTRO	$3,456	54	SEL MEXICO
FACTOR ELECTRICO, SA DE C	CFE DISTRIBUCION	$1,152	18	SEL MEXICO
SISTEMAS Y SERVICIOS EN	CFE DISTRIBUCION	$0	10	SEL MEXICO
SUMINISTROS MEXICANOS	CFE DISTRIBUCION	$0	12	SEL MEXICO
SUMINISTROS MEXICANOS	CFE DISTRIBUCION E.P.S	$0	0	SEL MEXICO
CFE GENERACION I EPS	CFE GENERACION I EPS	$1,998	84	SEL MEXICO
ROSSO INGENIERIA SA DE	CFE GENERACION I EPS	$128	2	SEL MEXICO
CFE GENERACION III EPS	CFE GENERACION III EPS	$3,833	132	SEL MEXICO
CFE GENERACION VI	CFE GENERACION VI	$242	4	SEL MEXICO
SERVICIOS DE INGENIERIA C	CFE GENERACION VI	$256	4	SEL MEXICO
CFE TRANSMISION	CFE TRANSMISION	$3,746	58	SEL MEXICO
ABB	Comision Federal de Electricidad	$2,432	38	SEL MEXICO
ABCONTROL, SA DE C.V.	Comision Federal de Electricidad	$1,792	28	SEL MEXICO
AHYG ELECTROTENIA Y	Comision Federal de Electricidad	$1,664	26	SEL MEXICO
ARTECHE ACP, SA DE C.V.	Comision Federal de Electricidad	$3,738	66	SEL MEXICO
ASELEC ELECTRICIDAD, SA	Comision Federal de Electricidad	$128	2	SEL MEXICO
AVANZIA ENERGIA, SA DE	Comision Federal de Electricidad	$128	2	SEL MEXICO
CFE DISTRIBUCION	Comision Federal de Electricidad	$267	6	SEL MEXICO

Customer	Account	Amount	Count	Region
BOA HORA 3 GERADORA DE ENERGIA SOLAR S A	BOA HORA 3 GERADORA DE ENERGIA SOLAR S A	$5,949	3	SEL BRAZIL
BROOKFIELD ENERGIA RENOVAVEL S A	BROOKFIELD ENERGIA RENOVAVEL S A	$3,009	1	SEL BRAZIL
LOGIXS ELETRICIDADE E AUTOMACAO LTDA ME	CEMIG DISTRIBUICAO SA	$4,866	2	SEL BRAZIL
CENTRAIS ELETRICAS DA PARAIBA SA	CENTRAIS ELETRICAS DA PARAIBA SA	$4,685	1	SEL BRAZIL
CRYOVAC BRASIL LTDA	CRYOVAC BRASIL LTDA	$4,573	1	SEL BRAZIL
EDP ESPIRITO SANTO DISTRIBUICAO DE ENERGIA SA	EDP ESPIRITO SANTO DISTRIBUICAO DE ENERGIA SA	$8,393	1	SEL BRAZIL
POWER SOLUTIONS BRASIL SISTEMAS DE AUTOMACAO E POTENCIA LTDA	EDP ESPIRITO SANTO DISTRIBUICAO DE ENERGIA SA	$2,615	1	SEL BRAZIL
EDP SAO PAULO DISTRIBUICAO DE ENERGIA SA	EDP SAO PAULO DISTRIBUICAO DE ENERGIA SA	$8,210	1	SEL BRAZIL
ELEKTRO REDES SA	ELEKTRO REDES SA	$3,411	2	SEL BRAZIL
WEG EQUIPAMENTOS ELETRICOS SA	EPM EMPRESA DE SERVICIOS PUBLICOS DE COLOMBIA	$4,541	1	SEL BRAZIL
NARI BRASIL HOLDING LTDA	EQUATORIAL PARA DISTRIBUIDORA DE ENERGIA S.A.	$2,581	1	SEL BRAZIL
MINERACAO RIACHO DOS MACHADOS LTDA	MINERACAO RIACHO DOS MACHADOS LTDA	$1,879	1	SEL BRAZIL
WEG EQUIPAMENTOS ELETRICOS SA	WEG EQUIPAMENTOS ELETRICOS SA	$5,611	1	SEL BRAZIL
BELIZE ELECTRICITY LTD	BELIZE ELECTRICITY LTD	$5,000	2	SEL CA & CARIBBEAN
Elektra Noreste SA	Elektra Noreste SA	$9,500	5	SEL CA & CARIBBEAN
CEICA S.A	Empresa Electrica De Guatemala SA	$5,000	2	SEL CA & CARIBBEAN
Empresa Propietaria de la Red SA Costa Rica	Empresa Propietaria de la Red SA Costa Rica	$2,500	4	SEL CA & CARIBBEAN
Falconbridge Dominicana SA	Falconbridge Dominicana SA	$5,000	1	SEL CA & CARIBBEAN
CEICA S.A	INDE-INSTITUTO NACIONAL	$46,000	2	SEL CA & CARIBBEAN
Jamaica Public Service Company Limited	Jamaica Public Service Company Limited	$8,000	2	SEL CA & CARIBBEAN
TECNOLOGIA,SERVICIOS, E INGENIERIA HOLDING SA	PAN AM THERMAL GENERATING	$10,000	3	SEL CA & CARIBBEAN
CEICA S.A	Transportista Electrica Centroamericana S.A	$5,000	2	SEL CA & CARIBBEAN
Vientos de San Marcos SA DE CV	Vientos de San Marcos SA DE CV	$5,000	1	SEL CA & CARIBBEAN
TECMA TECNOLOGIA Y MAQUINARIA SA	ACCIONA ENERGIA CHILE	$2,500	1	SEL AUSTRAL
TECMA TECNOLOGIA Y MAQUINARIA SA	AES	$2,500	1	SEL AUSTRAL
TECMA TECNOLOGIA Y MAQUINARIA SA	Atlas Renewable Energy Chile SpA	$2,500	1	SEL AUSTRAL
BLC S.A.	BLC S.A.	$6,030	1	SEL AUSTRAL
TECMA TECNOLOGIA Y MAQUINARIA SA	Conejo Solar SpA	$2,500	1	SEL AUSTRAL
TECMA TECNOLOGIA Y MAQUINARIA SA	E-CL	$2,500	1	SEL AUSTRAL
TECMA TECNOLOGIA Y MAQUINARIA SA	FIRST SOLAR	$2,500	1	SEL AUSTRAL
La Administracion Nacional de Usinas y Transmisiones Electricas	La Administracion Nacional de Usinas y Transmisiones Electricas	$0	2	SEL AUSTRAL
Parques Eólicos Vientos del Sur S.A	Parques Eólicos Vientos del Sur S.A	$3,367	1	SEL AUSTRAL
TECMA TECNOLOGIA Y MAQUINARIA SA	Red Electrica del Norte S.A.	$2,500	1	SEL AUSTRAL
TECMA TECNOLOGIA Y MAQUINARIA SA	SUNPOWER CORP. SPA	$2,500	1	SEL AUSTRAL

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Customer	Entity	Amount	Qty	Office
CFE DISTRIBUCION E.P.S	Comision Federal de Electricidad	$128	2	SEL MEXICO
CFE GENERACION I EPS	Comision Federal de Electricidad	$4,372	160	SEL MEXICO
CFE GENERACION III E.P.S.	Comision Federal de Electricidad	$2,353	56	SEL MEXICO
CFE GENERACION III EPS	Comision Federal de Electricidad	$990	24	SEL MEXICO
CFE GENERACION VI	Comision Federal de Electricidad	$2,829	44	SEL MEXICO
CFE TRANSMISION	Comision Federal de Electricidad	$2,816	44	SEL MEXICO
COELMEX ENERGIA, SA DE	Comision Federal de Electricidad	$128	2	SEL MEXICO
CONOVA DISEÑO Y CONSTRUCC	Comision Federal de Electricidad	$1,152	26	SEL MEXICO
CONSTRUCCIONES GARMADIO S	Comision Federal de Electricidad	$0	2	SEL MEXICO
CUSTOM & CO. S.A DE C.V.	Comision Federal de Electricidad	$512	8	SEL MEXICO
DELTA ESTRELLA INGENIERIA	Comision Federal de Electricidad	$0	12	SEL MEXICO
EATON TECHNOLOGIES S DE	Comision Federal de Electricidad	$660	12	SEL MEXICO
EDGON-GRER, S.A. DE C.V.	Comision Federal de Electricidad	$384	6	SEL MEXICO
E-KEME SERVICIOS Y TRANSF	Comision Federal de Electricidad	$1,024	16	SEL MEXICO
INTEGRACION DE ENERGIA SA	Comision Federal de Electricidad	$4,696	91	SEL MEXICO
PROTECSA AUTOMATION SA	Comision Federal de Electricidad	$6,974	139	SEL MEXICO
ROSSO INGENIERIA SA DE	Comision Federal de Electricidad	$126	2	SEL MEXICO
Schneider Electric Mexico SA de CV	Comision Federal de Electricidad	$2,400	24	SEL MEXICO
SEDIPSSA COMERCIALIZADORA	Comision Federal de Electricidad	$110	2	SEL MEXICO
SHARL INTEGRANDO SOLUCION	Comision Federal de Electricidad	$220	8	SEL MEXICO
SIEMENS	Comision Federal de Electricidad	$16,980	350	SEL MEXICO
SISTEMAS E INGENIERIA EN	Comision Federal de Electricidad	$2,562	44	SEL MEXICO
SISTEMAS Y SERVICIOS EN	Comision Federal de Electricidad	$3,456	102	SEL MEXICO
SOCIEDAD DE INGENIEROS	Comision Federal de Electricidad	$110	2	SEL MEXICO
SOLART ELECTROMECANICA, S	Comision Federal de Electricidad	$1,008	16	SEL MEXICO
TABLEROS Y EQUIPOS ESPECI	Comision Federal de Electricidad	$0	2	SEL MEXICO
TECNOLOGIA E INGENIERIA E	Comision Federal de Electricidad	$384	6	SEL MEXICO
TECNOWORLD CORP, SA DE	Comision Federal de Electricidad	$128	2	SEL MEXICO

Customer	Entity	Amount	Qty	Office
ZIMAELECTRIC SOLUTIONS S.	Comision Federal de Electricidad	$1,044	18	SEL MEXICO
SISTEMAS Y SERVICIOS EN	COMPAÑIA CERVECERA DE OBR	$0	2	SEL MEXICO
ENERGIA INFRA S.A.P.I DE	CRYOINFRA	$2,546	1	SEL MEXICO
GRUPO ZENER S.C.	ENERTEK SA DE C.V.	$10,868	1	SEL MEXICO
FACTOR ELECTRICO, SA DE C	FACTOR ELECTRICO, SA DE C	$378	6	SEL MEXICO
ZIMAELECTRIC SOLUTIONS S.	INTERCERAMIC,S.A.	$2,494	1	SEL MEXICO
MEYAH SISTEMAS ELECTRICOS	MAZDA	$2,625	1	SEL MEXICO
CUSTOM & CO. S.A DE C.V.	MET MEX PENOLES	$384	6	SEL MEXICO
SOLUCIONES PCIM SA DE CV	MULTISERVICIOS 2001, SA	$4,725	1	SEL MEXICO
ABB	NESTLE	$256	4	SEL MEXICO
PEMEX	PEMEX	$0	1	SEL MEXICO
PROYECTOS Y CONSTRUCCION	SAINT GOBAIN MEXICO, S.A	$128	2	SEL MEXICO
ABB	WTC PARQUE INDUSTRIAL	$768	12	SEL MEXICO
ELECTRICAL SUPPORT SA D	Comision Federal de Electricidad	$5,784	96	SEL MEXICO
ELECTROSISTEMAS H.E.P.T.A	Comision Federal de Electricidad	$128	2	SEL MEXICO
ELECTROTECNIA DE CULIACAN	Comision Federal de Electricidad	$384	6	SEL MEXICO
EPYCON S.A. DE C.V.	Comision Federal de Electricidad	$256	28	SEL MEXICO
FACTOR ELECTRICO, SA DE C	Comision Federal de Electricidad	$1,204	32	SEL MEXICO
GE GRID SOLUTIONS SA DE C	Comision Federal de Electricidad	$880	16	SEL MEXICO
GRUPO DE DESARROLLO DE TA	Comision Federal de Electricidad	$384	6	SEL MEXICO
IMPERCASA DE MORELIA SA	Comision Federal de Electricidad	$128	2	SEL MEXICO
IMPERCASA DE MORELIA SA D	Comision Federal de Electricidad	$0	6	SEL MEXICO
INDUSTRIAS SIGRAMA SA	Comision Federal de Electricidad	$860	38	SEL MEXICO
INGENIERIA Y SERVICIOS AD	Comision Federal de Electricidad	$128	2	SEL MEXICO
INGETEAM MEXICO SA DE C	Comision Federal de Electricidad	$3,794	68	SEL MEXICO
INPROCOM, SA DE C.V.	Comision Federal de Electricidad	$1,792	28	SEL MEXICO
INSTALACION Y MANTENIMIEN	Comision Federal de Electricidad	$128	2	SEL MEXICO

Step 2. Invite the customer to a Teams/Webex Meeting where we will Demo a software tool called "AcSELerator Database Search Engine (ADSE)".

Step 3. Briefly explain/teach the importance of these IEDs as "data servers" that are **continuously monitoring** the customer's power system.
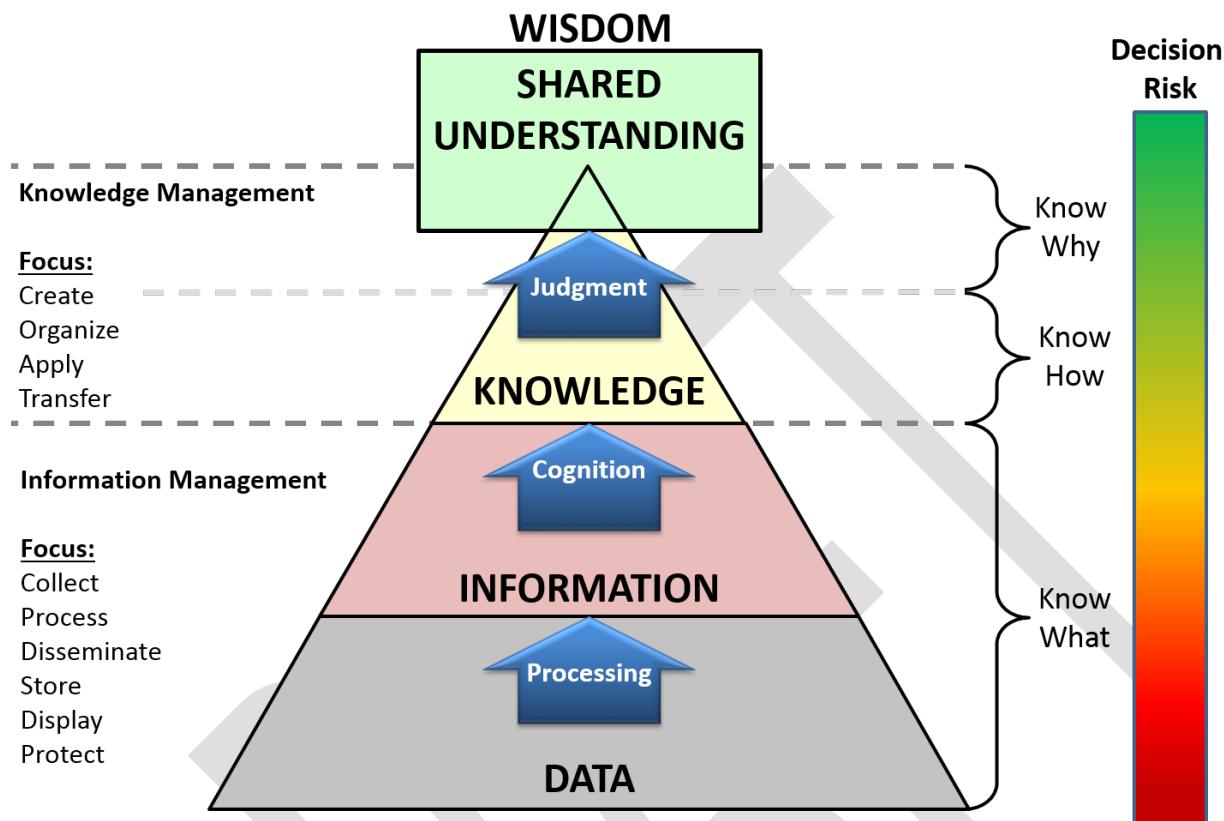
It is important to focus in the concept of the data-information-knowledge-wisdom (**DIKW**) model.
https://en.wikipedia.org/wiki/DIKW_pyramid

I have written a whole White Paper on this concept related to the SEL protocol (available soon)

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Knowledge Management Cognitive Pyramid

1. **Data becomes Information.**

   Starts when analog signals (copper cables) are transformed to 1's and 0's inside of the IED's internal database and become Data. Then Data is shared from many IED's (through communication protocols) towards the data concentrator or RTAC database (temporary storage), and it eventually becomes Information.

2. **Information becomes Knowledge.**

   Starts inside the RTAC, when it crunches data through its IEC-61131-3 POUs and creates real-time personalized maps (this is Information) that are **useful** to different clients. The RTAC as a "server" serves information to each client (examples: HMI, SCADA, Intrusion Detection/Protection System, Syslog, DCS, Engineering Access, etc.) through communication protocols. The RTAC is part of a big group of devices that are Clients and Servers simultaneously in order to elevate information to humans. Information Servers are corporate databases.

   All this information becomes human "know how" or Knowledge.

3. **Knowledge becomes Wisdom.**

   Starts when human knowledge is shared through different corporate departments, examples: finance, sales & customer service, legal, etc. **Knowledge is used to make decisions**. Shared knowledge becomes wisdom which is used to guide and potentially adjust the vision of the whole company.

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Step 4. Briefly explain/teach how AcSELerator Quickset is a Data Client and it uses many software tools that load data into a centralized data repository, the "AcSELerator Database". These software tools are:

a) Device Manager (license free Quickset plugin that they already use) which **manually** organizes all their existing IEDs with its:
   i) IED Settings Manager
   ii) IED Connection Parameter Manager
   iii) IED Custom Attribute Manager
   iv) IED Document Attachment Manager
   v) IED Inventory (P/N, S/N, FID, etc.) Manager

b) The combination of Device Manager and SEL-5045 (TEAM) is configured to **automatically** collect reports (ex: oscilographic CEV, SSI, SER, Load Profile, and Cybersecurity audit logs) from SEL products.

Step 5. Explain that we can exploit the AcSELerator Database because it is PostgreSQL or a free and open-source relational database management system emphasizing extensibility and SQL compliance. This mid-level database is meant to be operational as a corporate database in any Windows Server machine. It is part of the IT network.

Step 6. Explain that the AcSELerator Database Search Engine (ADSE) is a **web client** and it uses the AcSELerator Database API (SEL-5230 software) as a secure **web service** that provides access to device data stored in the AcSELerator Database

Step 7. As a presenter, use your own AcSELerator Database (import/export one from me) instead of the customer's AcSELerator Database in order to Demo the **basic features** of the "AcSELerator Database Search Engine (ADSE)".

1) How many total IEDs are in the Database?
   a) How many RTACs are in the Database? (these are of Device Type SEL-3530/3530-4/3555/3505/3505-3/2240/3560E/3560S)
   b) How many Security Gateways are in the Database? (these are of Device Type SEL-3620/3622)
   c) How many SEL-2730M Managed Ethernet Switch are in the Database?
2) How many IEDs of Device Type "xyz" have Firmware Version "xyz"?

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3) How many IEDs are "In Service"? (type true or false to see results)

4) What is the Configuration Summary of any Part Number listed (need to copy/paste the listed P/N and hit enter, then click on the link)? (must be connected to the internet)

5) What is the latest firmware version of the selected IED by Device Type? (must be connected to the internet)

6) Where to download more product information of the selected IED by Device Type? (must be connected to the internet).

Step 8. Explain that the "advanced" features are just possible questions that can be queried (not developed or in development currently).

To create this additional queries in ADSE we have to use the SEL Configuration Application Programming Interface (API) or SEL-5231 which offers read/write access to device identification information, connection parameters, passwords, and settings that are stored in the AcSELerator Database.

The SEL-5231 API can provide access methods that do not require detailed database schema information or cumbersome parsing of settings files.

These are simple examples:

1) How many IEDs of Device Type "xyz" are there in "xyz" Region?
2) Are the passwords "factory default" for IEDs in Substation "xyz"?
3) How many Substations are there?
4) How many Regions are there?
5) What are the Latitude and Longitude of each Substation?
6) What was the Commissioned date of each Substation?
7) How many IEDs are: TransformerMotor/Feeder/Generator/CapBank/BusBar/Transmission/BreakerFailure Protection? (this query compares the Device_Type string versus the list of devices that fall under this category, for example the SEL-487E is of category Transformer Protection and cannot be associated with any other category like Motor Protection)

Communications/Connection Query:

8) How many relays are connected via Serial Port?
9) How many relays use "xyz" baud rate on their Serial Ports?
10) How many relays are connected via Ethernet Port?
11) How many relays are connected to a SEL-RTAC as its Master?
12) How many relays are connected to a SEL-3620 as its Security Gateway?
13) How many Host IP addresses are duplicates?

IED Settings Query:

14) How many IEDs have been created by "admin"?
15) How many IEDs have been created by "username xyz"?
16) How many Users are authorized to login to the Database to access these IEDs?
17) How many settings have been created during "start date" to "end date"?
18) Who was the last user to change any settings in the Database?

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Step 9. WHY IS THIS IMPORTANT?

The customer has a simple tool to get "know how" their installed resources.

Remember and remind everyone that: <mark>**Knowledge is used to make decisions**</mark>.

The "AcSELerator Database Search Engine (ADSE) is used by the "right" decision makers to:

    a) Advise or decide how/when/which/what firmware or hardware will be upgraded

    b) Decide on Cybersecurity planning to be able to meet corporate goals.

    c) Decide if accessories are compatible with the majority of your installed devices. Example: buying SEL-2488 Clock but not sure if the existing IEDs all support IRIG-B or PTP or NTP, then it is as simple as sharing AcSELerator Database with SEL engineer and asking for advice, or DIY: look up part numbers to understand if compatible.

    d) Quantify and qualify installed resources for budget/expenditure planning

    e) Eliminate inconsistent and disparate processes and create a one-stop-shop for the management

    f) Complement the decision of how scheduled maintenance is rotated between substations (based on IED reports)

Step 10. The demo ends with a gift. Use https://files.selinc.com/ to email the customer the installation files of the "AcSELerator Database Search Engine (ADSE)" so that the customer can show this information (using his/her own "curated" AcSELerator Database) to higher management.

When customer uses it, then potentially we create 2 opportunities:

1. The person/customer who has the data can share his/her curated AcSELerator Database Backup (exported as one ZIP file) so that a SEL engineer (AE or RSM) could offer advice as a trusted advisor or provide consultant-like personalized technical support.

2. The person/customer who keeps the data can use his/her AcSELerator Database together with ADSE to spread the word internally and get more people involved.

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ADSE User's Guide

There are primarily two search options available with "AcSELerator Database Search Engine" web application:

- o Main Page Search
- o Advanced Search

Main Page Search is opened by doble clicking the Icon to run the ADSE application from your desktop (a command window will open and must remain open for the Queries to work), then open Google Chrome or MS Edge and type into your web browser https://localhost:3000

- There are two search boxes used together (& symbol) to query.
  - o In the first search box, you can type Device Type you want to search and <enter>
  - o In the second search box, you can type any device property among Firmware Version, FID String, Part Number, Serial Number, whether device is in service or not, device name and device ID.

Complementary to the listed search results, use these features:

- **Product Details on SEL website**: A product details web link can open the webpage for the Device Type selected in the search. If you click on this link, it will direct you to the product details webpage for manuals, app guides, pricing, popular models, product videos, options, etc.
- **Check for the Latest Firmware Versions**: A latest firmware version web link can open the webpage for the Device Type selected in the search. If you click on that link, it will direct you to latest firmware version webpage and you can check whether current product firmware version is up-to-date or not.
- **Go to Configuration Summary for Part Number**: In this search box, you just need to copy/paste the part number of any device among Database and press enter on your keyboard, then you will get an link for Configuration summary for that part number directing you to Configuration Summary.

Help Page

- If user clicks on the help icon from main page, it will direct to help web page where you will get an information on:

  - o Example questions you can ask for main page search and advanced search.
  - o Feedback or Survey
  - o Purpose of the web application.
  - o SEL Privacy Policy
  - o SEL Home page link.

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Advanced Search (to be continued)

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