StruxureWare for Data Centers ETL BMS Integration

Software Education Service

Service

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1.0 Executive Summary

Our StruxureWare for Data Centers Software Solution Suite is designed to optimize and support the data center infrastructure management. Our Software Solution is composed of a comprehensive set of hardware, software and services. The Schneider Electric Services cover the whole life of the solution, from the initial installation to the renewal, including the best maintenance and care for your software platform.

The BMS data integration service is based on the solid ETL data integration framework built on StruxureWare. Our Service is designed with the most common requirements applicable to the same kind of projects. Our Schneider Electric ETL expert team, will request information and set up a meeting to validate the client requirements.

BMS systems typically monitor data center's equipment, collecting metered power and cooling data. Through the proposed integration our DCIM system will be able to collect BMS information. Once the models are set up, our DCIM will allow you to have access to the theoretical model datacenter performance values against the real values. The information will be used in ways that help managers and end users meet business objectives, meet service level goals, optimize the data center performance and reduce costs.

The ETL integration framework is based on a scheduled integration process that performs data Extraction, Transformation and Load (ETL) between an external system and StruxureWare for Data Center Operation.

Our BMS integration service will create a one-direction data integration that will allow DCIM software to be loaded with power metering and environmental data. The Service process and activities are designed utilizing our integration best practices. At the beginning of the project there will be a validation point to guarantee that customer requirements and the proposed service are fully aligned and to ensure customer readiness. The detailed activities plan will not take place until this meeting has not taken place and the service has been validated in detail. The output of this meeting is an integration plan approved by Schneider and the customer.

2.0 Features & Benefits

Data Center Software ETL Integration – Requirement validation	
Features	**Benefits**
Detailed Process	This feature will guarantee that the project is aligned with client expectations and the integration context is a key element of the process.
Plan Test.	The non-functional requirements will indicate the technical and organizational limitations and prepare the integration to be ready for the client situation.

Data Center Software ETL Integration – Requirements validation continued	
Features	**Benefits**
BMS Data Requirements.	Schneider Electric will receive detailed BMS information and sampling data. This data will be analyzed and will provide the basic information for the service.
Test Policies	Testing policies are the fundamental foundation for the quality of the final result. Data quality assurance is shaped by the test policies.
BMS Data Requirements.	Schneider Electric will receive detailed BMS information and sampling data. This data will be analyzed and will provide the basic information for the service.
Test Policies	Testing policies are the fundamental foundation for the quality of the final result. Data quality assurance is shaped by the test policies.
Data Center Software ETL Integration - Functional Analysis	
Features	**Benefits**
Source analysis	Identify the devices and typologies of devices in the BMS. Identifying the timing context of the exposed BMS data for power measurements. Identify the availability of relevant status information of devices that are relevant for the Datacenter Configuration as handled by StruxureWare Data Center Operations.
Mapping of entities	Identify the matching of the different device types between BMS and StruxureWare and the identification rules. Identify the units available in the different data points.
Data flows	Identify the required high level transformation needs and loads for each item and device.
Quality rules	Identify the data quality rules for each data flow and data types.
Data Center Software ETL Integration – Technical Design	
Features	**Benefits**
Detailed Process	Detailed design of the block processes of transformation and load.
Plan Test.	Develop the test data set.
Data Center Software ETL Integration –Process Development	
Features	**Benefits**
Processes creation	Schneider Electric will develop all the individual processes and scripts that connect each dataset including queries, filtering rules, master tables and connections until each individual data flow process runs.
Data Quality control design	Schneider Electric will create quality checkpoint into the data exchange processes to minimize error propagation along applications according to the business rules. The exceptions will be log and managed.
Unitary process test	Schneider Electric will test each individual process in a development environment.

Data Center Software ETL Integration - Deployment	
Features	**Benefits**
Installation of every process in the production/preproduction environment	Schneider Electric will install and configure the product integration in the preproduction or in the production environments.
Connectivity and data access testing	Schneider Electric will test availability of customer environments.
Full Testing	Schneider Electric will carry out integrated testing of the entire system.
Go-Live final validation	Schneider Electric will ensure a correct implementation and start-up.

3.0 Details of Service

The specific activities of each of the 1-day individual service offerings are listed below. For each item, Schneider Electric will perform the work described.

Data Center Software ETL Integration – Requirements validation	
Activates	**Description**
Pre-assessment	The detailed analysis of the integration will be collected through the standard ETL integration data gathering form. Once analyzed the result of the analysis there will be presented in the validation meeting where the service details will be agreed and the execution scheduled.
Non-Functional Requirements	Non-functional requirement is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behavior. Determine accessibility and availability of environments. Performance criteria, etc.
External Data Requirements.	Schneider Electric will gather the business rules affecting present data to be integrated (range, validity, Quality, refresh rates, relevance). Schneider Electric will report any GAP on the data that should be covered by the 3rd party exposed data.
Test Policies	Traceability of the information. Data quality assurance.

Data Center Software ETL Integration – Functional Analysis	
Activates	**Description**
Source analysis	Identify the devices and typologies of devices in the BMS. Identifying the timing context of the exposed BMS data for power measurements. Identify the availability of relevant status information of devices that are relevant for the Datacenter Configuration as handled by StruxureWare Data Center Operations.
Mapping of entities	Identify the matching of the different device types between BMS and StruxureWare and the identification rules. Identify the units available in the different data points.
Data flows	Identify the required high level transformation needs and loads for each item and device.
Quality rules	Identify the data quality rules for each data flow and data types.

Data Center Software ETL Integration – Technical Design	
Activates	**Description**
Detailed Process	Detailed design of the blocks diagram showing which process steps have to be developed for the transformation and load.
Plan Test.	Develop the test data set.

Data Center Software ETL Integration – Development	
Activates	**Description**
Processes creation	Schneider Electric will program all the individual processes that connect each dataset including queries, filtering rules, master tables and connections until each individual data flow process runs.
Data Quality control design	Schneider Electric will create quality checkpoint into the data exchange processes to minimize error propagation along applications according to the business rules. The exceptions will be log and managed.
Unitary process test	Schneider Electric will test each individual process in a development environment.
Processes creation	Schneider Electric will program all the individual processes that connect each dataset including queries, filtering rules, master tables and connections until each individual data flow process runs.

Data Center Software ETL Integration – Deployment	
Activates	**Description**
Installation of every process in the production/preproduction environment	Schneider Electric will install and configure the product integration in the preproduction or in the production environments.
Connectivity and data access testing	Schneider Electric will test availability of customer environments.
Full Testing	Schneider Electric will carry out integrated testing of the entire system.
Go-Live final validation	Schneider Electric will ensure a correct implementation and start-up.

4.0 Assumptions

The successful performance of the activities defined is based on the following key assumptions:

- Schneider Electric will perform all services during the Schneider Electric business hours (Monday through Friday from 8:00 AM to 5:00 PM weekly).
- The scheduled on-site work time if required will be discussed and approved between Schneider Electric and the customer.
- The customer will dedicate the required expert users to solve Schneider Electric information requirements and to diligently perform the validation of the works. The client will provide the information on the third party systems and will be responsible of the accuracy of the information provided to Schneider.
- The data obtained from the BMS system will be available through a simple mechanism, being that a structured-file format (csv, xls, xml, etc) or a simple DB flat table or view in a common database technology.
- The customer will ensure that all the third party systems that will be integrated are accessible by the planned technology by the Schneider Electric software.
- The customer will dedicate the required expert users to solve Schneider Electric data requirements and to perform the adequate testing and validation of the works.
- The testing of the system integrations will take place in testing environments, for that purpose, the customer will provide testing environments for the third party systems. If the testing has to be performed in production environments, the customer will assume under his responsibility the risks of operation disruption, including any accidental damage.
- If the integration process must be done for more than one BMS installation from the same client, both of them must meet the same specification (product, version, implementation rules) and expose the data in the same fashion, otherwise they should be counted as 2 integrations. This integration covers a maximum of 2.000 devices. If additional devices must be integrated a detailed study of the additional effort will be performed and the tasks agreed with the client.

5.0 Deliverables

Data Center ETL BMS Integration deliverables include:

Requirements validation
- Document describing Functional Structure for the given solution.
- 3rd party data analysis document.

Functional Analysis
- Document for QA rules and ETL processes validation.
- Testing plan document.

Technical Design
- ETL processes technical design documentation.
- Testing sets documentation.

Deployment
- Running processes installed on the target environment.

- Testing results.

6.0 Exclusion

The following items are outside the scope of this service offering. They can be provided through an alternative Schneider Electric service. Please contact an Schneider Electric sales representative for further details.

- Software Project management (available as a separate service)
- Integration based on events is not part of this service. All the service is exclusively based on scheduled data integrations that move a big collection of records periodically.
- Any 3rd party software configuration, modification or programming.
- Configuration of the data center software solution (The software has to be already configured)
- Configuration of the customers network for the use of the application
- Training in Data Center or other software products
- The development of any new software module, functionality or connection method that requires software development is not included in that proposal.
- The integration of device readings with DCO within the present Service ends when the device list appears in DCO as external recognized devices. Additional work related with DCO model is not included in the scope.

7.0 Scope of Responsibility

The items stated here are responsibilities of both Schneider Electric and the customer.

7.1 Schneider Electric Responsibilities

- Schedule qualified experts to perform service.
- Identify and document open Schneider Electric and/or customer issues.
- The study that will determine high level integration architecture and processes is part of the scope.
- The integration between the DCIM platform and the rest of the software will be performed with the ETL platform approved for DCIM integration
- Schneider Electric is responsible of the designed processes and information flows between systems. The guarantee of the performed work lasts 3 months after the final validation of the process.

7.2 Customer Responsibilities

- Provide a point of contact during time of service.
- Indicate to Schneider Electric any security clearance requirements when ordering service.

- Provide access to the data center if needed and Provide Schneider Electric with site-specific policies that need to be adhered to during the visit.
- Provide Schneider Electric IT Corporation with the necessary information about the setup in the data center.
- Grant full access to the data center software on both server and client sides.
- Perform a complete system back up the day before the scheduled service.
- Provide Schneider Electric with reliable technical information about the third party systems to be integrated with Schneider Electric Software.
- Provide Schneider Electric with reliable testing environments and sample data for the third party systems were testing of the integrations will be performed.
- The customer will provide Schneider Electric with a secure remote access to the mentioned testing environments.
- The customer will ensure that all the third party systems that will be integrated are accessible by the planned technology by the Schneider Electric software.
- The customer will provide all the required information about the third party systems to Schneider Electric.

8.0 Project Work Details

The following details of the project specify the schedule, location and successful completion criteria.

8.1 SCHEDULE

Actual set dates will be discussed and approved between Schneider Electric and the customer.

8.2 LOCATION

The integration service will be performed off-site

8.3 COMPLETION CRITERIA

Schneider Electric is expected to have finished its written duties when any of the following occurs:

- Schneider Electric completes all the tasks described in the Details of Service of this Statement of Work.
- This service and Statement of Work are terminated for other reasons, within the Schneider Electric Customer Agreement.

9.0 Pricing

- Pricing for the StruxureWare Data Center ETL BMS Integration service (WNSWETLBMS) will be quoted on a daily rate dependent on the complexity of the integration.

10.0 Terms and Conditions

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