EcWin 7 API Development

Business Requirements Document (BRD)

May 2018

Version 0.1

Contents

1 Document Revisions

Date	Version Number	Document Changes
10th of May 2018	1.0	

2 Approvals

Role	Name	Title	Signature	Date
Project Sponsor	Sinmi Akinsanmi	Business Operations Manager, PowerTec		
Business Owner				
Project Manager	Demola Ogidi	Energy Manager, PowerTech		
System Architect	Kayode Akanmu	Deputy Chief Technology Officer, Venture Garden Group		
Quality Lead				
Content Lead	Oluchi Chiazor	Senior Business Analyst		

3 Introduction

3.1 Project Summary

The EcWin7 platform is a web based meter data management system that underpins PowerTech's Automatic Meter Reading solution for the wholesale and retail markets within the Nigerian Electricity Supply Industry (NESI). This Solution has been deployed in the past for the Transmission Company of Nigeria and, in more recent times, Distribution Companies (Eko Disco and Kaduna Disco). The platform equips PowerTech's clients with the ability to remotely read energy consumption related data from smart meters at predefined intervals and create customized reports based on the information pulled. This information is critical for customer billing, asset mapping and other ancillary services that the utilities provide to their end customers.

3.1.1 Objectives

The purpose of this project is to develop an API that would give a business or and/or third party system access to the customer energy data contained within the database of ecWIn 7. The aim of this project is and not limited to producing an API that will:

- Improve interoperability of third party client systems with ecWin7
- Provide access to key energy related data and parameters.
- Provide the user with the ability to retrieve this information for a single meter or an aggregation of meters.
- Provide the user with the ability to create customized reports using predefined filters.

3.1.2 Background

A gamut of the power sector is plagued with the issue of revenue assurance. This issue of illiquidity has threatened the sustainability of the entire sector in recent times and has been a major factor dissuading investors and players who are vital for the sector's development. With extremely high commercial and collection losses are exacerbated by the utilities' inability to gain insight into the energy consumption across their networks and to use this information as the basis for billing, collections and other management level decisions.

PowerTech offers a platform that would enhance insight into energy consumption collections across all locations and maximum demand customers – ecWin7.

The EcWin7 API will enable businesses that want to provide ancillary services to their customers on top of PowerTech AMR's core capabilities have access to key customer energy data. The emphasis of the API development contained in this BRD

is to provide only *access* to relevant energy data and parameters, however future development could be considered to look more into *scheduling* and *automation* of these API calls.

3.1.2.1 Business Drivers

PowerTech aims to expose this API to key stakeholders in order to:

- Provide historical, operational, observational and real-time energy related data and performance information.
- Empower users to make impactful strategic, tactical and operational decisions.
- Ensure transparency, integrity and accountability across board; through adequate reporting processes.
- Provide real time support to all users.
- Empower users deliver customized performance reports.

3.2 Project Scope

This Project will focus on the ease of access to energy related details for the following key data sets:

- Load Profile
- Billing Register
- Events

3.2.1 In Scope Functionality

- Access to API
- Ability to spool relevant energy related data
- Report generation tool for pre-defined metrics.
- Restricted user access / user authentication.
- Dynamism for scalability.

3.2.1 Out of Scope Functionality

- Ability to schedule API calls
- Ability to automatically create customized reports.

3.3 System Perspective

- No known legal or regulatory compliance will impede the development of the EcWin7 API as all necessary set regulations will be strictly adhered to.
- Unavailability of technical or developmental resources may slow down or elongate the deployment date of this project.

3.3.1 Assumptions

- The API would be developed within the proposed timeframe.
- Project has executive-level support and backing.
- All relevant stakeholders will provide necessary support for a successful project completion

3.3.2 Constraints

- The resources for building the API are insufficient.
- Plausible use of shared resources within for the development of the ecWin7 API.
- Short timeline for the realization of API's deployment.
- Internet accessibility and network downtime dictates the efficacy of the use of the API.
- Comprehensive training of relevant stakeholders to ensure efficient usage of the proposed tool is mandatory.

3.3.3 Risks

- Any connectivity issues can affect the reliability of the API
- Deployment dependencies may slow down the pace of swift implementation of the API.
- Plausible resource sharing might place a stretch on the stint of the project.

4 Business Process Overview

4.1 Current (As-Is) Process

Currently, when a business or third part system requires energy related data, the PowerTech team have to manually access the ecWin7 database, spool the relevant data (often exported in excel) clean the data and create customized reports that are then sent to the client. Understandably, this approach is not only cumbersome but also prone to errors.

4.2 Proposed (To-Be) Process

- Every Identified business/ third party system would be able to make calls to the API to spool relevant energy related from the ecWin7 database according to business needs and predefined filters.

- Access to the API should be available 24 hours a day any day of the week.

5 Business Requirements

The list below describes the features and functional sub-modules of the solution.

Value	Rating	Description
1	Critical	This requirement is critical to the success of the project. The project will not be possible without this requirement.
2	High	This requirement is high priority, but the project can be implemented at a bare minimum without this requirement.
3	Medium	This requirement is somewhat important, as it provides some value but the project can proceed without it.
4	Low	This is a low priority requirement or a "nice to have" feature, if time and cost allow it.
5	Future	This requirement is out of scope for this project, and has been included here for a possible future release.

5.1 Functionality Requirements

Req#	**Priority**	**Description**	**Impacted Stakeholders**	**Comment from client [Agree/Disagree]**
General Functionality				
PT-EC-API-001	1	Access API	All	
PT-EC-API-002	1	Ability to spool *Load Profile* Data either for an aggregated set of meters or individual meters using the following parameters: i.) Retrieve Meter Number ii.) Retrieve meter/customer name iii.) Retrieve type of customers iv.) Retrieve energy information based on date ranges	All	
PT-EC-API-003	1	Ability to spool *Billing Register* Data either for an aggregated set of meters or individual meters using the following parameters: i.) Retrieve Meter Number ii.) Retrieve meter/customer	All	

		name iii.) Retrieve type of customers iv.) Retrieve energy information based on date ranges		
PT-EC-API-004	1	Ability to spool *events* Data either for an aggregated set of meters or individual meters using the following parameters: i.) Retrieve Meter Number ii.) Retrieve meter/customer name iii.) Retrieve type of customers iv.) Retrieve energy information based on date ranges	All	
Security Requirements				
Req#	**Priority**	**Description**	**Impacted Stakeholders**	**Comment from client [Agree/Disagree]**
PT-EC-API-005	1	Only third party systems approved by the systems admin would be able to read from or send commands to the API.	All	
Reporting Requirements				
Req#	**Priority**	**Description**	**Impacted Stakeholders**	**Comment from client [Agree/Disagree]**
PT-EC-API-006	2	The system shall generate highly formatted, print-ready, interactive user-defined report.	Peoples Ops and Admin	

5.2 Non Functional Requirements

ID	REQUIREMENTS
NFR-001	**Communications Interface** There is need for internet connectivity for the quick and easy transmission of data.
NFR-002	**Maintainability**: I. The system code should be written to allow for future possible upgrades. Code will be documented, including version updates and authors.

	II. Code will be fully commented. III. Each method will include a description of its function and any additional information needed to help in future additions. IV. Conditions to be agreed upon based on the performance of the designed and deployed solution The application code will be numbered and well commented to ensure easier maintenance and support
NFR-003	**Operational Requirements** 1. In an event when there is loss or corruption of data in the application, the following are the consequences: • Malfunction of the affected application. • Loss of vital data A cloud backup system should be in place.
NFR-004	**Recoverability** I. Ability to restore functions in 24hours immediately after a system failure II. Ability to restore a corrupt databases or broken APIs to its working condition in less than 24 hrs. Ability to restore damaged hardware, data, and onsite systems backup in less than 48 hrs.
NFR-003	**Accessibility** • The consequences of inaccessibility of the API could be as a result of internet downtime on mobile devices. • PowerTech grants access to administrative users as deemed necessary.
NFR-006	**Reliability** The Failure in any performance of this API could have serious impact on business goals as it is at the core of PowerTech's ability to provide near real time automatic meter reading capabilities to utilities
NFR-008	**System Availability** The API will be available for 24 hours every day.

6 Sign Off

I …….. hereby certify that this Business Requirements Document encapsulates all the deliverables required for the Build and design of ecWIN7 API.