

Applications Development and Management

A Multi-Year Roadmap

The Applications Development and Management function at Bluewater Power has become an integral part of business operations. In fact, over the last 20 years, and more so in the last 10 years, this area has been a hub of activity that has contributed significant regulatory response, business process enhancement, and general corporate advancement.

In an analysis of the current and available portfolio of solutions, this report will illustrate some history, highlight the current landscape, illuminate the proposed path forward, and recommend a multi-year roadmap that captures significant cost savings.

Some History

Bluewater Power has used SAP as its primary business software solution for 20 years. In that time the industry has encountered much change, but SAP has continued to be a solid business systems platform.

SAP Version Roadmap – Past and Present

1. SAP R/3 Enterprise Edition 4.0B – original BWP implementation in 2002
2. SAP R/3 Enterprise Edition 4.6C – implemented in 2004 as a requirement to get to 4.7
3. SAP R/3 Enterprise Edition 4.7 – implemented in 2004 as a technical upgrade only
4. SAP ERP Central Component (ECC) 6.0 – implemented in 2009 as a technical upgrade only
5. SAP Enhancement Package 6 for SAP ERP 6.0 – implemented in 2010 as part of the Smart Meter project
6. SAP Enhancement Package 7 for SAP ERP 6.0 – current solution, implemented 2018 as a technical upgrade only
7. SAP Enhancement Package 8 for SAP ERP 6.0 – available to us as part of maintenance
8. SAP S/4HANA 2005 – most current on-prem version. Available to us as part of maintenance

While BWP has had very little support from SAP over the years you can see the number of upgrades of software we have implemented. Except for Smart Metering, the upgrades have been technical in nature only. That is to say, there has been little in the way of business technology improvement. An example is with Supply Chain or Materials Management, where literally, nothing has functionally changed since the original implementation.

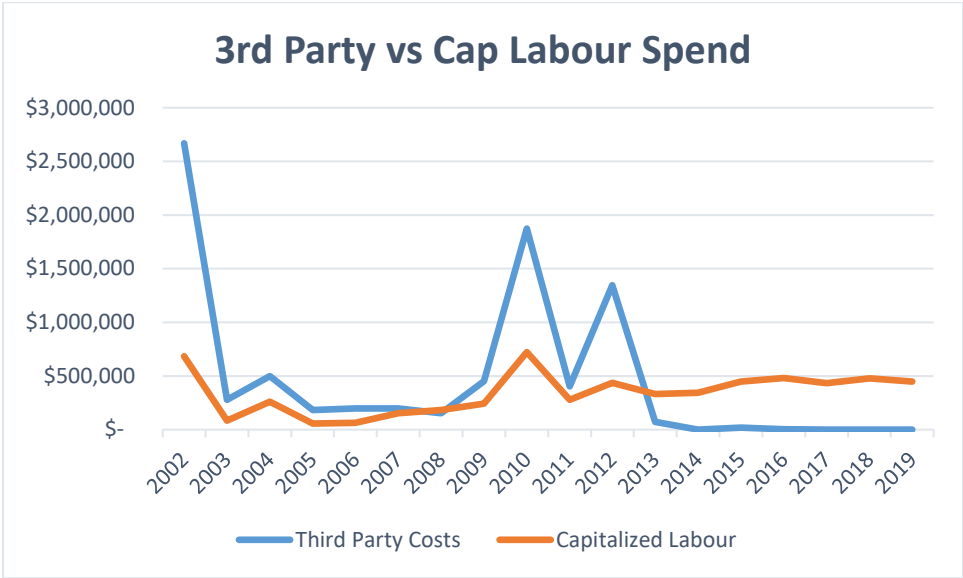
Our strategy has been only to do upgrades when necessary and, when required, to limit change and thereby, control costs. Significant upgrades have included regulatory or platform change requirements (market closing (4.0B → 4.7), and Smart Metering (4.7 → ECC 6.0)). Along the

way, we have carried out some changes such as implementing IFRS for Finance and introducing CRM in the Call Centre as part of a larger upgrade.

As with all enterprise software solutions, the cost to support the SAP platform, especially as it relates to change can be significant. However, we have worked diligently to manage those costs while remaining technically sound and legislatively current.

Historically, there was a strategic shift in our approach in 2012. From inception in 2002 until 2012, all technical and regulatory changes were performed by external SAP Consultants. The cost for this was high and the challenge to find qualified SAP consultants with an understanding of the Ontario electricity industry was difficult. This often led to less than optimal solutions. In response, in 2012 we developed in-house staff expertise to perform these technical and regulatory change requirements. This model (paying to SAP, annual maintenance fees and performing development changes in-house) created substantial cost savings and produced significantly better products.

To illustrate, the chart below shows the cost of external SAP consultants against the cost of internal capitalized labour. Most notably, beginning in 2013 and continuing through the present, there have been zero costs paid to external SAP consultants!



In addition to the SAP technical changes that have been managed by internal Bluewater staff, the list below identifies some of the changes to SAP that have been implemented internally.

- MyAccount
- HST Project
- Ontario Clean Energy Benefit (OCEB)

- Ontario Electricity Support Program (OESP)
- Debt Retirement Charge Exemption (DRC)
- Net Metering
- Ontario Rebate for Electricity Consumers (OREC)
- OEB License Changes
- Low-Income Energy Assistance Program (LEAP)
- Monthly Billing
- First Nations Delivery Credit (FNDC)
- Fair Hydro Plan
- OEB Customer Service Rules
- Ontario Electricity Rebate (OER)
- MDM/R 8.6 Upgrade
- COVID-19 Rates & Late Payment Relief
- COVID-19 Energy Assistance Program (CEAP)

Clearly this strategy has been a successful one that has served Bluewater and its customers well.

Future Roadmap

As is common with all software implementations, regular updates for patches, security developments, and technical changes need to be performed. Generally, access to these code changes are included in annual maintenance fees. As described above, Bluewater has historically paid to SAP annual maintenance fees that included access to the software changes but did not include the cost to implement the changes. As a result, in order to control costs, Bluewater Power focussed on required technical upgrades and regulatory change requirements in the iterative development of SAP.

Eventually, however, functional change upgrades or replacements become inevitable in order for software to serve its purposes in a current environment. After 20 years, this is where Bluewater Power is at with its SAP solution, and in order to modernize Customer Service, Operations, Supply Chain, and Finance services, significant functional changes have become necessary. The available options to Bluewater, essentially, are to launch a large upgrade project utilizing the latest SAP version and include functional developments in the above noted areas, go to market for a new business ERP solution, or invest in the existing product with a focus on functional improvements.

To upgrade or replace a corporate ERP solution can be expected to cost \$10M to \$12M – and that, primarily to third party vendors. Unfortunately, projects such as these are often plagued with cost overruns and disappointing results. As well, having reviewed the current landscape of

available products, there are none in the market that are appealing enough to believe that implementing them would truly benefit Bluewater Power.

In response, a new strategy has been developed, having four primary objectives:

1. Secure the existing version of SAP with available technical support for a minimum of ten years.
2. Lower the annual costs paid to SAP for maintenance.
3. Identify a path to introduce corporate functional improvements over a five to seven year period.
4. Develop and Implement the functional changes using a hybrid of internal staff first and external SAP consultants as required, at an acceptable risk and lower cost than a replacement or upgrade project.

SAP Software – Securing its Future

The SAP development roadmap has slowed. SAP recently announced it will now extend support for ECC 6.0 through 2030 and S/4HANA through at least 2040. Both of these dates are subject to change but only by further extending the support periods. Bluewater Power is presently on ECC 6.0 and owns the software S/4HANA. This means that our current, implemented platform contains enough development to be considered solid for enterprise use for another decade.

SAP Maintenance Costs

SAP has been implemented at BWP under a license purchase with annual maintenance model. That is to say, there have been initial purchases of SAP software that include one-time costs, and on-going annual maintenance fees. Over time, BWP has purchased \$1,066,423 worth of software licenses from SAP. Annually, BWP has paid 22% of that license fee or \$234,615 as a maintenance fee. Maintenance fees are charged so that support is available and further product development or software upgrades are available to the customer.

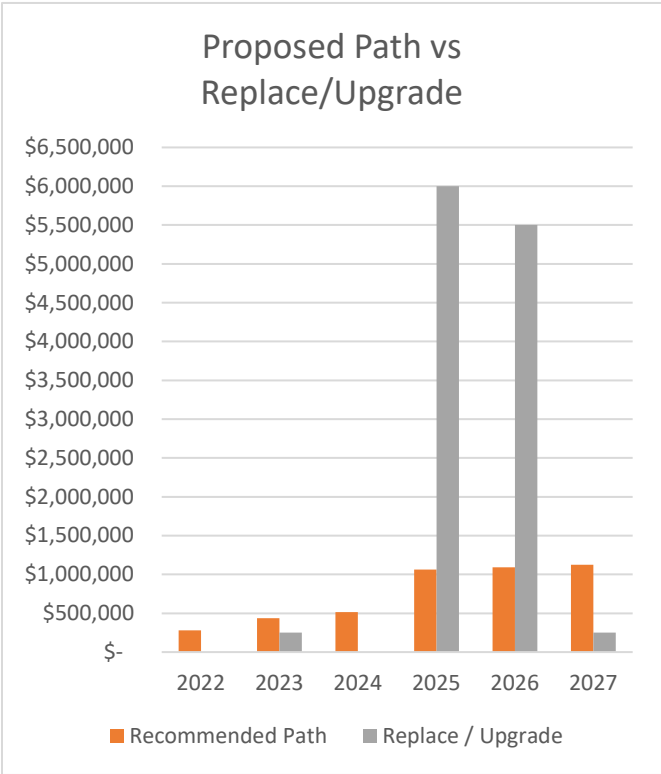
Recently, companies that run SAP and other major software solutions have been given another option to the high cost of software maintenance. Third party maintenance providers are now offering similar, and often better, maintenance services for significantly reduced costs. These companies have gained significant market share by offering maintenance support at 50% of SAP maintenance costs. They are able to do so because 90% of the maintenance fees collected by SAP are profit. That is to say, that only 10% of fees collected by SAP go into support services and product development. Companies providing after-market maintenance services can offer significant savings and still make substantial profits.

Bluewater Power has recently engaged one of these companies and negotiated a long-term contract. Under this contract, the company will charge less than 50% of the current SAP maintenance fees and they have agreed to support SAP ECC 6.0 through 2036.

This effectively meets the first two objectives of this roadmap. Our implementation of SAP has been secured through to 2036 and our maintenance fees have been significantly reduced.

SAP Functional Roadmap Future

The intent of this strategy is to modernize the primary business functions of SAP over a period of five to seven years. Taking this approach will enable continuous change that utilizes Bluewater Power staff as the primary source of development while adding external expertise only in the areas needed.



From a cost perspective, as shown in the accompanying chart, the multi-year, in-house path is expected to cost approximately \$5,000,000, spread out over a number of years. Alternatively, the replacement / upgrade solution would cost approximately \$12,000,000.

This approach saves a significant amount of money that directly benefits our customers. It also creates an advantageous cash flow position for the company, which is especially valuable during a season of significant capital investment in our plant.

The functional improvements will focus on four primary areas of how SAP is used at Bluewater Power. These include Customer Service, Supply Chain, Operations, and

Finance. Within each of these areas, various changes will be developed and implemented. The specifics of these projects are still being developed, but they will generally bring about modernization, automation, efficiencies, and greater user and customer interaction opportunities.

Summary

Bluewater Power has taken an expeditious approach to managing its principal business software solution. Primarily, there has been a focus to develop internal expertise and utilize that expertise to ensure the product is technically sound and legislatively current.

However, the time has come where significant functional improvement and solution modernization needs to be addressed. As identified in this document, the best approach is to stay with the current version of SAP and develop it through a series of projects over a period of five to seven years. In this approach, Bluewater Power will continue to utilize the expertise of its staff first while engaging external development assistance only when necessary.

Ultimately, these projects will bring about technology advancements that will streamline business functions in a highly cost effective manner.