SQUARING THE CIRCLE – TARGET IT ARCHITECTURE FOR ENERGY SALES & SERVICE

A point of view provided by the BCG Platinion Energy Practice Area
UTILITY CIOs IN EUROPE ARE BEING SQUEEZED FROM TWO SIDES: Decreasing sales margins are pushing IT efficiency to minimize IT cost. At the same time, IT departments have to be flexibly adapted to keep pace with new players and their attractive, digital offerings and lean processes. Platinion is supporting several major European utilities in mastering this balancing act.

This article frames the starting position with a quantitative analysis based on the BCG/Platinion Energy Sales & Service benchmark and derives the key requirements for a competitive IT architecture. Moreover, the document looks at the CIO’s challenge and the derived requirements from an IT strategy perspective and provides practical examples of different IT architecture options.

The current environment is challenging for IT executives. At the same time, the importance of IT is constantly increasing, since it is considered a core enabler for future (digital) business. By setting and executing the right IT agenda, closely aligned with their respective business strategy, CIOs make a key contribution to the company’s future success.

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THE RETAIL ENERGY MARKET HAS DRAMATICALLY CHANGED IN MANY EUROPEAN COUNTRIES over the last five years. The traditional sales business is challenged by increasing cost pressure and new, digitally-driven business models. To address these challenges, utilities require a flexible, scalable, reliable and cost-conscious IT architecture. The IT architecture has to be reconceptualized to support these new capabilities at Energy Sales & Service.

In many countries, the market has long been dominated by large incumbents. They have typically acted from a position of strength, relying upon an asset-driven, protected business model and leveraging economies of scale based on their broad customer base. The customer was often not the focus of the utility, but rather an attribute at the metering point. These established, large, customer-rich utilities could be compared to a grizzly bear – massive and powerful but still slow and complacent.

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With a highly profitable business model, a streamlined organization, lean processes and flexible IT, these players could be compared to an antelope – small and vulnerable but very flexible and agile.

Taking a look at the market, these new entrants are gaining ground in the habitat of the bears in multiple ways. First, companies like first:utility or OVO energy increase their market share by attracting customers with low retail prices and an outstanding digital customer experience and could benefit from cost advantages through digitalization. Additionally, players like TESLA or sonnen extend the established power and gas-based business model with concepts like “PV plus battery” or “Virtual Power Plants” to unlock new profit pools. Finally, there are countless start-ups which are focusing on value added services for the customers beyond the commodity itself.

Companies such as

» switchup.de – always choosing the cheapest commodity contract for you,
» Lumenaza – facilitating local peer-2-peer energy market, or
» OPOWER – providing digital devices for smart energy or demand response,
are just a few examples, illustrating the broad option space how these antelopes are disrupting the so long settled utility industry.
In general, new market entrants are nothing new for the industry – over the last few years, several competitors entered the stage and tried to attack the established utilities with more or less success (e.g. OVO Energy, TelDaFax). The incumbents could still build upon their scale.

But the latest results of the BCG/Platinion Energy Sales & Service Benchmark reveal that the new entrants are changing the rules of the game with respect to their servicing costs. The figure below shows that players with a significant number of customers can leverage their economies of scale to derive an attractive cost position (highlighted in section 1).

But several smaller competitors in the market could beat the economies of scale of the large utilities and realize even better cost advantages by simplification and smart set-up (highlighted in section 2). Obviously, established utilities are struggling with their complex set-up and can no longer only rely on their power of a broad customer base.

This rise of “small is beautiful” can also be seen in other industries. Still, we see a very high pace in the energy sector due to the immateriality of the good and the rapidly changing market conditions.

**BCG/Platinion Benchmark:** simplicity beats scale.

**BCG/Platinion Energy Sales & Service Benchmark.**

- **1** Big utilities struggle to fully realize scale advantage due to high complexity
  - Clear scale advantages due to larger customer base
  - Often lost due to complex set-up
- **2** Simple & smart set-up can beat scale
  - Focused business model
  - Simple organization
  - Lean processes and IT
HOW TO GET THE BEAR TO DANCE – DIGITAL, AGILE, SIMPLE.

TO FACE THE GROWING COMPETITION and the cost advantages of a smart and lean business setup, the established, big utilities have to pull three major levers to face the changing playing field with its new competitors:

» Get digital to enhance customer experience
» Boost time-to-market to facilitate new solutions
» Simplify complex processes and IT to get lean

All three levers evidently have a strong connection to capabilities provided by and supported through IT. It is obvious that future IT architecture has to balance diversification and minimal costs to provide the optimal level of support for the Energy Sales & Service business of tomorrow. Considering this direct correlation of business and IT, existing IT landscapes have to be reimagined. With the new emphasis on capabilities provided by IT, energy sales competition will also become a competition of IT platforms.

Get digital to enhance customer experience.

Digital customer experience has to be supported by devices and apps facilitating sales and service processes via self-service channels. Of course, these front-end processes have to be seamlessly integrated into the back-end layer with core applications like contract management and billing.

Boost time-to-market to facilitate new solutions.

New solutions, consisting of commodity and non-commodity elements, with pricing personalized to the individual customer and anticipating the customers next need have to be ramped up on short notice. Key capabilities like offers, calculation, delivery, invoicing and accounting have to be fundamentally enhanced in parallel to the change in business mindset to leverage early mover’s advantages at a feasible cost level.

Simplify complex processes and IT to get lean.

To achieve the necessary flexibility, to offer and serve new products, and to facilitate digitalization, established business processes and IT support have to be streamlined and focused on the value generating steps. Automation of IT processes to gain efficiency must be well balanced with fully industrialized standard processes to increase margins by minimizing costs of running contracts.
SINCE THE IT PLATFORM IS CRUCIAL FOR THE SUCCESS of future sales, the IT architecture has to be in line with the medium and long-term business objectives. From a somewhat schematic perspective, utilities could follow one of two strategic directions: diversification or cost leadership. These strategic directions are complemented by the individual appetite for change, either a step-by-step, transformational approach or a disruptive change with massive impact in a short time frame.

Considering these dimensions, strategic direction and desire for change, four general principles for the target IT architecture are illustrated in the following figure.

### ESSENTIAL DANCE MOVES – OPTIONS FOR THE TARGET IT ARCHITECTURE.

<table>
<thead>
<tr>
<th>PRINCIPLES FOR THE TARGET IT ARCHITECTURE.</th>
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<tr>
<td><strong>External</strong></td>
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<tr>
<td>Facilitate low costs</td>
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<tr>
<td>Facilitate innovation</td>
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<tr>
<td><strong>Internal</strong></td>
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<tr>
<td>Keep existing IT</td>
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<tr>
<td>Facilitate transformation</td>
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<tr>
<td><strong>IT outsourcing</strong></td>
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<tr>
<td>3: Existing IT operated by external partner</td>
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<tr>
<td><strong>Optimize IT</strong></td>
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<tr>
<td>1: Optimize existing IT and/or implement new release</td>
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<td><strong>Cloud &amp; beyond</strong></td>
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<td>4: Outsourcing of processes and IT</td>
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<tr>
<td><strong>Ramp-up new IT</strong></td>
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<td>2: Either alternative vendor(s) or individual development</td>
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<tr>
<td><strong>Establish new IT</strong></td>
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<td>Facilitate disruption</td>
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Each of these options support the business strategy with its individual characteristics.

1. **Optimize IT** improves the existing IT platform by optimizing/updating systems, interfaces and/or source code to facilitate individual development. This sets the ideal foundation for the implementation of individual services/functions in the areas of most value creation beyond standard systems available at the market utilizing a pace-layering application approach, for example.

Since this option relies on the existing IT platform, it could be considered transformational.

2. **Ramp-up new IT** facilitates diversification by setting up completely new IT systems and fully leveraging the benefits of cutting-edge technology without the need to integrate limitations previously set by the legacy IT systems. This could be achieved either by implementing the latest standard systems or new systems individually. Ultimately, this option leads to the replacement of the legacy IT. In the short term, this option could be setup in parallel to the existing IT (e.g. as “two-speed IT”) to boost the time to market.

Due to the extensive intervention when changing the legacy IT and the massive impact on business processes and vision, it could be considered disruptive.

3. **IT outsourcing** could be considered as an option to industrialize IT and support a cost-leadership strategy. External partners are providing infrastructure, storage and apps in scalable, flexible and reliable way via the cloud. IT outsourcing is supporting IT run and change processes at a cost position which could not be achieved internally. Since organizational structures on business side and the IT platform remain the same, it could be considered transformational.

4. **Cloud & beyond** means using new IT applications provided by external partners (e.g. via the cloud) or conducting a complete BPO (business process outsourcing) of core processes together with the related IT systems. The external partner ramps down the internal legacy IT platform and provides the IT systems (in the case of BPO, including the business level) at a competitive, scalable cost level. Due to the massive change of the IT platform (and within the organization potentially), this option could be considered disruptive.

The four options provide a guideline when defining the target IT architecture and help to align the business objectives with the future IT platform. The business strategy could incorporate diversification in one customer segment or business area and cost objectives in another. It is quite likely that the target IT architecture has to consider multiple options in parallel with setting the right focus, mirroring the business strategy.
THE JOURNEY TOWARDS THE TARGET IT ARCHITECTURE will not start on the “greenfield”. A consistent, secure and affordable transition from the current to the target landscape is critical for the successful growth of the sales business. Therefore, a roadmap has to be developed in parallel to the target architecture, defining feasible steps to master the transition. This roadmap has to be tailored to the utility to address the associated challenges individually.

Our project experience with clients across Europe has revealed different journeys to implement the IT target architecture successfully. The following examples provide an overview of the typical challenges and key success factors.

**Digital, time-to-market and lean processes are key enablers for future energy sales business.**

**SELECTED EXAMPLES ON TYPICAL CHALLENGES AND KEY SUCCESS FACTORS.**
1. A European utility with focus on commodity and non-commodity wants to facilitate diversification of its businesses, without disrupting the current IT landscape. Re-standardization measures, such as minimizing individual code or simplifying customization of the SAP environment, is the key to leveraging the benefits of standard software and implementing next-generation features based on SAP HANA, Hybris or Fiori. While the utility profits from out-of-the-box features, the speed of transformation is highly dependent on the roadmap of the software vendor.

A close partnership between utility and vendor is essential to maintaining alignment between the business priorities and the implementation roadmap.

2. A small-scale utility wants to enhance its digital capabilities and deploy an IT system, which provides a digital customer experience. The company decided to go for a best-of-breed approach (combined with low-cost ambition) and relies on lightweight, open-source software like jBilling or Sugar CRM. The utility benefits from very short release cycles and is able to deploy new capabilities immediately.

Of course, this approach could not provide the level of standardization and automation of a deep integrated software suite, but it gives utilities the agility and flexibility to adapt new business models on short notice. Nevertheless, this approach requires significant technological expertise and close collaboration between business and IT.

3. European utility focusing on industrialization of IT without disrupting the business. The utility streamlined its IT services and outsourced the IT infrastructure to an external partner. The outsourcing of “servers, storage and cables” could be considered the first step.

An ASP (application service providing) model, providing IT applications for ERP or HR in a cheap and reliable way, has to be considered the logical next step. Even if IT outsourcing does facilitate diversification in a very limited way, the cost savings are very beneficial to the established commodity business.

It is essential to define and maintain the optimal service level to keep the right balance of costs and appropriate support of the business.

4. The regional unit of a European utility is focused on low-cost retail and is willing to disrupt its established business processes. Therefore, the utility facilitates a BPO model and outsources key sales and all service processes to an external partner. This scenario can be considered very disruptive, especially from an organizational perspective. A cloud model, where new IT capabilities are provided by an external partner and operated by the company’s own employees, has an obviously minor or organizational impact. Even if the utility profits from scalable business and IT costs, BPO models are typically based on economies of scale.

A constant dialogue between the utility and the service partner is key to leveraging cost benefits and facilitating individualization in parallel.

A TAILORED IT TARGET ARCHITECTURE will provide the necessary capabilities to be competitive in the future. The new roadmap will provide a clear view of feasible steps towards the defined target state. Considering the heterogeneous legacy IT landscapes of most established utilities, it is likely that the transition will take a significant amount of time and resources.

To minimize the transition effort and potential disappointment along the way towards the target, utilities should tightly align their business priorities with the defined IT transition. Future business models, the supporting IT platform and the transition path have to be defined hand-in-hand and updated constantly to ensure the success of future Energy Sales & Service business – and to keep the bear dancing.

As a starting point, a set of interviews and orientational workshops with key stakeholders of business and IT determine the current maturity of IT capabilities and the ambition towards a future IT. Taking this as a base, a target IT architecture project can be initiated in a focused way.
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BCG PLATINION SUPPORTS RENOWNED CLIENTS in the industrial and service sectors in mastering the IT challenges that are critical for success – from design to implementation.

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We are committed to the highest standards regarding quality and functionality to support our clients with feasible, unique solutions considering:

» Individual business strategies
» Complex organizational design
» Efficient business processes
» Technology support

With over 40 dedicated energy experts we are supporting utilities worldwide along all steps of the value chain—up-, mid- and downstream.

Our expertise is based on deep industry knowledge and broad technological skills to help our energy clients to build something unique.

BCG PLATINION – THE IT ARCHITECTS