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**PRODUCT
DATASHEET**

UCES Pro Evolution

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Company Profile

Ecomize AG was established 2004 and is registered as a Swiss Public Limited Company (PLC).

Ecomize AG is a SAP CRM focused consultancy providing specialized expertise within SAP Web Channel (WEC), Web Channel Experience Management (WCEM), Biller Direct and UCES platforms.

We have wide experience in working with customers across multiple industries:

Aerospace & Defense
Consumer Products
High-Tech
Life-Sciences including Pharmaceuticals
Media
Oil & Gas
Professional Services
Retail
Utilities

Our customers include:

Bluewater Power
Fresenius
Lindt & Sprüngli UK
London Hydro
Norsk Medisinaldepot AS
Rieber & Søn
SAP
Saskpower
SONY
The Caravan Club
Uhlmann
Roto Frank

Overview

Biller Direct forms part of the SAP Financial Supply Chain Management (FSCM) offering, it provides a web base frontend for the Electronic Bill Presentation and Payment (EBPP) processes for managing debits, credits and online payments for various user scenarios (often referred to as the E-Billing solution).

SAP Utilities Customer E-Service (UCES) is the corresponding Industry Solution, which further extends Biller Direct with specific utilities industry functionality (e.g. contract accounts and self service capabilities).

Biller Direct / UCES are based on well architected, industry standard technologies, providing tight integration to backend SAP processes related to ERP and CRM. The standard installation provides a ready-to-go out of the box solution with a web based interaction layer (frontend).

This provides the customer with an accelerated implementation framework which can easily be enhanced and deployed as part of an implementation project.

UCES Pro Evolution Overview

In an increasingly competitive web dominated market, requirements for today's web based applications far exceed those expected when the Biller Direct / UCES product was first conceived.

Today's web applications must compete in a market where technology savvy customers demand visually stimulating, content driven applications that support multi-channel access from the myriad of web enabled devices they use to organize and run their day-to-day lives.

This presents the modern business with a significant challenge. It is no longer sufficient to just rollout ready-to-use out of the box B2B/B2C solutions, replacing the odd logo and tweaking the style sheet appearance.

Equally, refocusing efforts to respond to the requirements of an increasingly demanding customer base must be done within the context of today's challenging global economy; businesses need to seek out solutions that allow them to leverage investments in existing infrastructure and technology without significantly increasing their TCO, yet still retaining their competitive advantage.

As a special expertise implementation partner, Ecomize AG has been responsible for numerous implementations of SAP Biller Direct and UCES which has put us in a unique position to understand the complexities involved in satisfying the many and varied customer requirements, using the standard product.

UCES Pro Evolution represents the next logical step for the UCES application platform and is based on the extensive implementation experience garnered over the many implementations in which we were involved.

The solution offers a proven approach to solving the limitations of the standard SAP Biller Direct / UCES applications including a major re-work of key elements within the UCES frontend, enabling customers to deliver against their requirements whilst still leveraging their investment in the existing SAP infrastructure.

Our approach when developing the UCES Pro Evolution product has been to provide a framework which moves away from the traditional project based implementing paradigm, instead embracing a concept of continued development and enhancement focused on reusing the expertise of previous implementations.

This has proved to be a fresh attitude towards traditional project based SAP consulting which has enabled us to differentiate our solution for our competitors, in which we have striven to improve the efficiency of new feature development, increase the overall flexibility of the product and to enable the fastest possible implementation path for our customers.

UCES Pro Evolution is therefore not a new product; it represents the accumulation of many years knowledge and expertise gained in implementing SAP Biller Direct / UCES solutions for many and varied customers.

Limitations and Challenges

The following sections examine the limitations of the current SAP Biller Direct / UCES product and provide detailed information on the challenges the UCES Pro Evolution solution has been designed to address.

Look and Feel

The standard UCES application utilizes frameset technology, meaning the browser screen is separated into three frames each using physically independent HTML files, one for each of the header, navigation and content components respectively.

This approach was used to centralized recurrent parts of the screen, to maintain them within a single location and avoid redundancies using a browser side technology. At the time when the frameset based technology was implemented, it was generally deemed sufficient for look and feel changes to be kept to a minimum, only the addition of header logo and adjustment of the colour scheme via CSS files considered necessary.

Over recent years, greater demand for flexibility and control of these components has dramatically increased. Today's expectations for fully optimized and seamlessly integrated applications in line with the overall corporate branding / customer Identity of company have never been greater.

Herein lies the problem with framesets, they are often difficult for browsers to handle in a consistent manner, resulting in numerous layout issues and messy workarounds to support the multitude of different browsers available.

This means that the content of each screen must be maintained within individual and logically independent files (up to 200 files in total). Changes to look and feel across multiple pages need to be applied individually to each page, this high degree of separation results in redundant and time expensive workloads, with approximately 90% of the workload due to the redundancy.

Example:

A customer reports a browser compatibility issue to the support desk. This issue is passed to the technical support group who duly trace the problem to a small issue with HTML compatibility, requiring a minor modification to the application.

This problem was identified within 10 minutes, but, due to the architecture of the application, will require lengthy remedial work to each of the effected pages in order to solve. What should be a minor fix solved in a few minutes by an experienced developer, escalates into a change that will take several hours to complete.

Logon and Registration

UCES provides logon and registration functionality through a physically independent and centralized application via the security API of the SAP NetWeaver JAVA runtime environment.

This security API is protected, and hence is not available as source within the NWDI (NetWeaver Development Environment). Only limited changes can be achieved via changes applied directly to

the deployed application, which must be repeated during each subsequent deployment as they are automatically overwritten by this processes.

Furthermore, given that the security API provides a centralized model, each modification to this would apply to all running application instances on the deployment server and cannot be limited to a specific instance such as Biller Direct / UCES.

Whilst the possibility to optimize this process is therefore technically feasible, nevertheless this is a time consuming and expensive process, which limits the flexibility to maximize automation and usability

Example:

A customer requests the implementation of security enhancement which would automatically timeout passwords generated by the password reset facility if not used within 24hrs, in order to increase the security of the process for the user.

Under the current architecture, the implementation of this functionality via the standard security API would require a significant investment in time and resources, making this change infeasible to achieve within a reasonable time frame.

Enhancement and Optimization of Standard Components

Enhancement and optimization of any HTML does require a given amount of time and effort to achieve, but under the current architecture, enhancement of the data layer is limited as data is mostly transferred to the screen via XML documents, which increase the complexity to modify, filter or enrich this data.

Furthermore, the evaluation of this data is often happening within the rendering process of the HTML page and requires that business logic be embedded here. As a result, this complicates the enhancement further, as each modification must be embedded within the individual rendering process. Given that almost every page has an independent process to load, manage and release its data elements, the number of points for enhancement starts to increase dramatically for each modification.

Example:

A customer has the requirement to hide specific types of contracts on a given screen based upon their description.

In order to satisfy this requirement, the XML data structure must be enhanced and the additional business logic provided, whilst the business logic can easily be implemented within 30 minutes or so, corrections to the XML document alone take up to a day to complete.

Addition and Optimization of Custom Components

The integration and optimization of custom screens within the standard UCES application can generally be performed without complication; especially where they are completely independent from other screens and require only limited or common information about the current account.

Unfortunately, if further information is required to process additional data from other screens or backend data sources, then a significant amount of additional time will be used in order to gain access to this data. Therefore, the vast majority of the development effort associated with such

changes is focused purely on data access rather than the additional business logic being provided by the page.

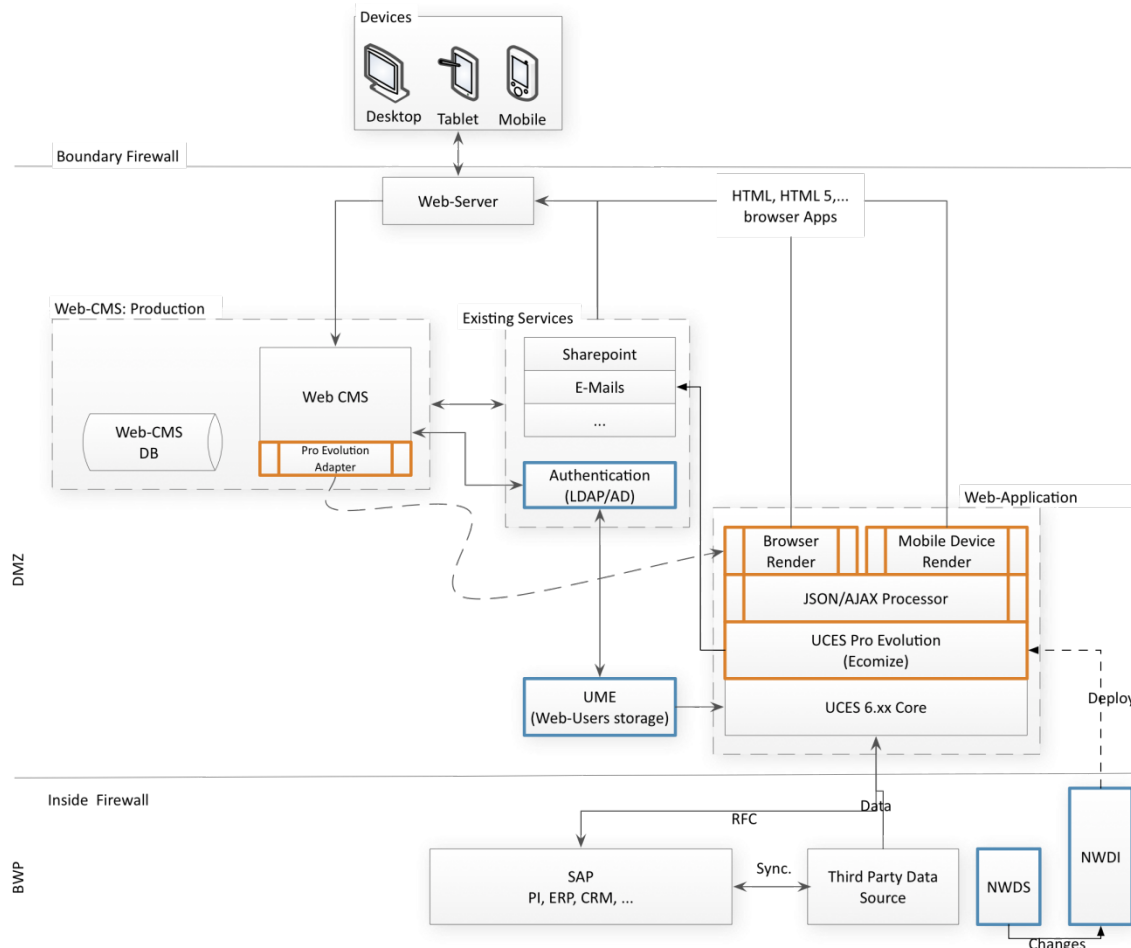
Example:

The customer has the requirement to display the meter reads table of the vanilla “Contract Overview” screen within another page.

In order to satisfy this requirement, the existing data must first be made available to this page and the business logic implemented to interpret this data. Up to 90% of the development time will be invested in making the data available to the page whilst 10% of the time will actually be spent on developing the new page and associated business logic to process the data.

Technical Solution

The following diagram details the technical architecture of the UCES Pro Evolution Solution. Further technical detail is provided in the subsequent sections.

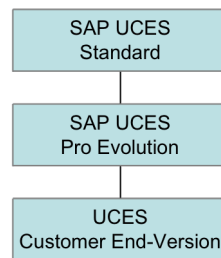


Development Environment

UCES Pro Evolution is built upon the SAP NWDI (NetWeaver Development Environment). It has been embedded within a hierarchical like structure that inherits from and enriches the existing standard functionality rather than threading an application completely independently of the standard component.

As part of the integrated build process, all new content is automatically merged on the fly with the standard components and all customer specific modifications are encapsulated within UCES Pro Evolution in the same way as introducing any other deployable component.

Integration Hierarchy



The main advantages of this approach are:

- Patches and Upgrades of the standard UCES component can be applied at any time
- UCES Pro Evolution global features are also contained in their own component, newer versions of product can be deployed independently of customer developments
- Customer developments are physically separated from the inherited components; this gives the customer more transparency about enhancement implementations and simplifies the maintenance process.

Template driven

UCES Pro Evolution is a template orientated framework where centralized maintenance of templates reduces redundancies and greatly increases the reusability of specific screen elements.

Migrating to this template driven architecture frees the customer from the outdated frameset technology allowing them the flexibility to achieve those look and feel objectives not previously possible in the standard offering.

Screens are returned to the browser within a single HTML response, in parallel a modularized concept has been applied to each individual screen, elements of the screen can be exchanged, interchanged and reused without the need to physically touch any of the pages.

Web-CMS Integration

UCES Pro Evolution provides unique adapter technology to retrieve the complete web page and its content directly from a CMS system, currently providing support for Joomla and McCann with Ektron support under development.

The advantages of such integration are that the content of the CMS will be dynamically merged on fly with the UCES functionality permitting minor changes to page titles, text (before and after the main content) and individual UCES screens without the involvement of technical resources and with immediate effect.

Business Object Layer

Unlike SAP's Web-Channel solution, Biller Direct / UCES does not provide separation between the control and data layers. To provide increase flexibility and easier access to data, UCES Pro Evolution provides a framework from which to access the Business Object Layer (BOL) whose core functionalities are accessible through the interface.

Leverage of this Business Object Layer (BOL) significantly reduces the time taken to deliver new data access requirements, modifying and enhancing the data access layer without the need to re-write the rendering and control layer as part of the process.

Additionally, use of the BOL layer provides the advantage of separation between backend and frontend processes, including the flexibility to replace a backend implementation without effect on the frontend.

Extensibility

UCES Pro Evolution has been designed to maximize the application extension capabilities available to the customer, providing the capability to extend data access, control and rendering processes independently with support for industry standard technologies such as JSON, XML and HTML5 rendering.

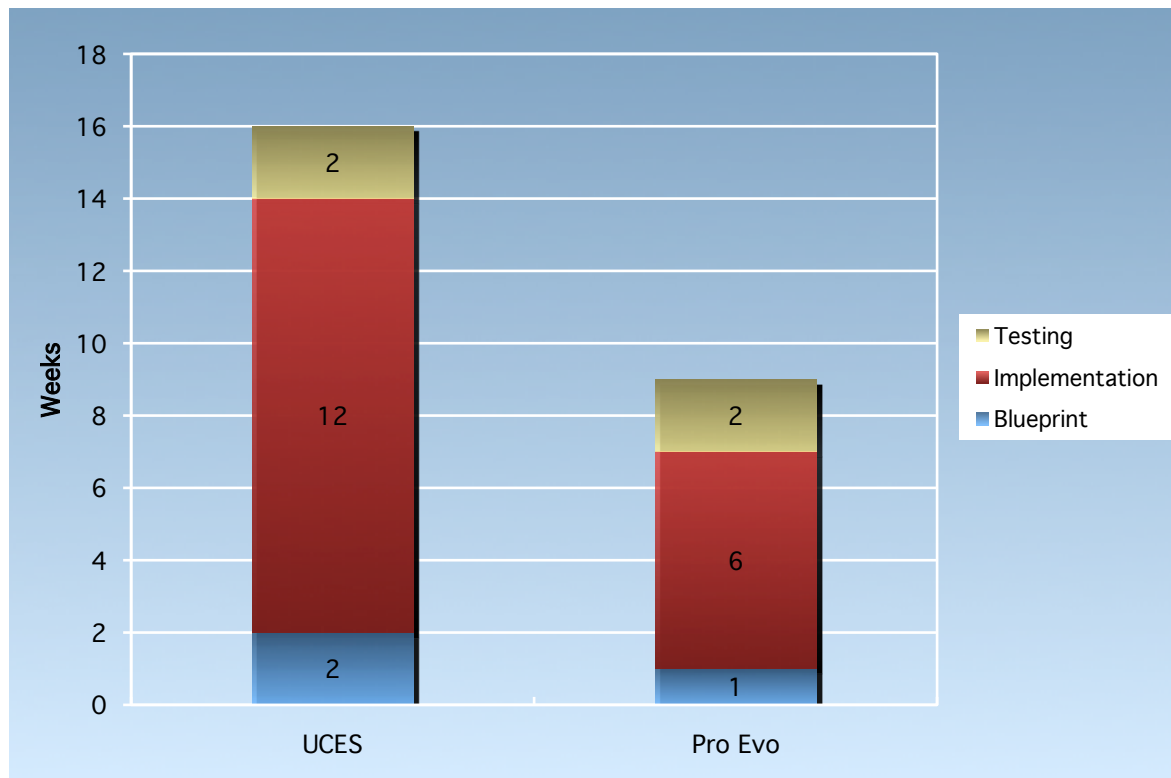
Benefits

The following sections examine the many benefits of implement the UCES Pro Evolutions solution.

Faster Implementation / Increased Cost-Benefits

UCES Pro Evolution typically leads to implementations where the project development to go-live cycle is decreased by up to 43%.

The greatly enhanced possibility to enable requirements in a straightforward manner not only impacts the development cycle but significantly reduces the effort required during the blueprinting phase whilst continuing to support a more flexible and modulated foundation for further modification and cost efficient support.



In parallel, an increase in usability of the product is also achieved through the use of client side scripting frameworks and other technologies. These enhancements ensure your customers receive the best user experience possible.

Improving your customer experience also has benefits for your business as well, happier customers raise fewer complaints, user friendly application promote E-Service adoption and allow you to further innovate in your service delivery to reduce the workload and costs of your customer services, call-centres or other service channels.

Ready-To-Use Extra Functionality

UCES Pro Evolution is a lot more than just a fancy frontend and catchy titles, in addition to all the standard UCES functionality available, UCES Pro Evolution incorporates many other innovative functionalities including.

- Logon on behalf – allow your customer service to see the same as your customer on screen.
- Business Partner address synchronization
- Interactive Consumption Charts
- Advanced search options
- Display bills by account
- Smart Meter / TOU support
- Environmental information / Temperature charts
- Meter read schedule calendar
- HTML5 / Mobile Device Support
- User Account Statistics (Admin)
- And more...

Conclusions

Most of the requirements for the frontend are common and generally relatively simple to achieve, yet the majority of the time used for implementation will be allocated to handling the necessary data and environment changes.

The overhead for completing such changes to bring in line the application with corporate brand / customer identity, including the optimization of existing screens and frontend processes therefore presents a significant challenge to achieve within a reasonable and cost effective time frame.

UCES Pro Evolution was, therefore, conceived to address these issues, provide a seamlessly integrated application, that is highly focused on user experience and usability yet leverages the existing investment in application architecture and infrastructure of the Biller Direct / UCES platform, providing tight integration to backend SAP processes related to ERP and CRM.

Further Information

If you require further information please checkout our website www.ecomize.com where all our up to date information and contact details can be found.