

Solutions for Enabling Lifetime Customer Relationships
White Paper

The 4th Generation of Online Billing

**Leveraging Customer Intelligence for Better Customer Relationships
and Lower Costs to Serve**

Customer Communication Management

The 4th Generation of Online Billing

Abstract

SMALLER, LIGHTER, FASTER TECHNOLOGY HAS LAUNCHED A MASSIVE MOVEMENT TOWARDS INDIVIDUALISATION—PROFOUNDLY RESHAPING THE WORLD ECONOMY. THE ABILITY TO CARRY THE OFFICE IN ONE'S POCKET MEANS BUSINESS CAN BE DONE ANYTIME, ANYWHERE. TODAY, AN INTERNET PRESENCE IS NO LONGER THE AFFECTATION OF FAR-SIGHTED ENTREPRENEURS. WORLD-CLASS E-CAPABILITIES ARE ESSENTIAL FOR SURVIVAL, AND THE SOCIAL MEDIA REVOLUTION HAS CONDITIONED CONSUMERS TO VIEW WEB PORTALS AS PRIMARY POINTS OF CONTACT.

THE 4TH GENERATION OF ONLINE BILLING HAS CAPABILITIES TO MEET AND EXCEED CUSTOMER DEMANDS AND DELIVER PREVIOUSLY UNAVAILABLE BENEFITS TO BUSINESS.

IN 2011 HOUSEHOLDS THAT PAY BILLS ONLINE WILL HIT A STAGGERING 63%. A 4TH GENERATION SOLUTION OPTIMISES THIS POINT OF CONTACT BY LEVERAGING A REPOSITORY OF BILLING INFORMATION AND CUSTOMER INTERACTIONS KNOWN AS "CUSTOMER INTELLIGENCE" TO PERSONALISE A CUSTOMER'S EXPERIENCE, LEADING TO IMPROVED PRODUCTIVITY, LOWER OPERATING COSTS, INCREASED REVENUE, AND MOST IMPORTANTLY, EXCELLENT CUSTOMER SERVICE.

THIS WHITE PAPER DESCRIBES THE CHALLENGES THE ONLINE PHENOMENON HAS PLACED ON BUSINESS, THE TECHNICAL FEATURES OF A SUCCESSFUL E-BILLING PORTAL, AND THE WAYS IN WHICH E-BILLING WITH CUSTOMER INTELLIGENCE AND ANALYTICS DELIVERS A COMPREHENSIVE SOLUTION.

IN EUROPE ALONE, INTERNET USAGE HAS PENETRATED 71% OF THE POPULATION TOTALLING OVER 350 MILLION USERS.

A Business Paradigm Shift

Expectations are Changing

Increasingly, customers know the Web and how to use it. Web usage, and even dependence, is so pervasive that “I’ll Google it,” has become a commonplace rejoinder. The novelty of random surfing has long worn off. Customers are converging on sites that offer value, whether it’s efficiency and time savings, or the capability to network, collaborate, and join communities of interest. Ease of use is an important factor in any web portal’s success, but the explosive growth of social networking sites points to another customer expectation: our lives are fast-paced and often isolated; we want to communicate. The recent and dramatic growth in usage at sites that allow collaboration (i.e., Web 2.0 capabilities) is not an isolated anomaly, but a leading example of how quickly we migrate to web sites that engage us.

Our Online Presence is Staggering

Of the estimated 6.8 billion people living on Earth in 2010, 1.9 billion were using the Web. This represented a 445% growth in Internet usage¹ from 2000. In North America alone, Internet usage has penetrated 77% of the population totalling of over 266 million users. According to Forrester Research, 63% of households will pay bills online in 2011, which means the implications and opportunities are enormous. Advantage will clearly go to the trendsetters.

Examples: Web 2.0 Trendsetters

Myspace: Online collaboration and exchange of information, social networking and people as individual personas.

Wikipedia: Contribute to and collaborate on definitions and descriptions on topics in an online encyclopedia.

Facebook: Collaboration and exchange of information, social networking and individual personas online.

YouTube: Online social networking, personal development and communities of interest.

LinkedIn: Professional online networking, collaboration and communities of interest.

Match.com: Personal collaboration, communities and networking online.¹

What Does This Mean for Business?

Customers expect not only to reach a business on the Web, but to be individually serviced there with rich capabilities they’ve come to enjoy. If one business does not provide them with what they want, its competitor will. But a web business portal is not only an imperative for survival; it’s a tool for growth that will:

- Improve business productivity
- Lower operating costs
- Provide increased revenue
- Optimise cash flow
- Deliver better customer service than any other channel

Of course, all the benefits of a web portal depend on customer adoption, and adoption is driven by portal quality. As more customers encounter excellence in the online world, poorly planned and structured web portals will stick out and disappoint. The result will not only be lost investment, but lost revenue. To deliver products and services through the Web, a business must impress customers with a unique, engaging experience. It needs to service every aspect of the customer relationship. And since that relationship and the customer’s expectations are ever changing, a site needs to be flexible and adaptable to unforeseen requirements.

The 4th Generation of Online Billing

Introducing 4th Generation e-Billing with Customer Intelligence and Analytics

4th generation online billing allows billers to reach their customers and grow their relationship through a rich, highly-personalised experience driven by billing information and trends.

Leading businesses have always known how to leverage customer relationships. With each contact, they gather information on the services and products customers use, their spending habits and demographic data. They profile and target customers. They adapt offerings to those customers. These practices ultimately save expense and enhance revenue. 4th generation e-billing enhances these proven practices with the power and the reach of the Internet.

FOUR GENERATIONS OF ONLINE BILLING

1st Generation: Reduce costs by saving money on postage, paper, and printing.

2nd Generation: Electronic bill presentment and payment expanded to include some online account management, generating further savings.

3rd Generation: Leading businesses include a broader range of self-service functionality.

4th Generation: Solutions employ customer intelligence and analytics to increase customer retention and revenue, reduce costs and speed time to market, and enhance the customer care experience.

The three fundamental requirements of a 4th generation web business portal include:

- **Leverages customer intelligence**—by utilising customer-related data across the organisation and inherent in the online experience, and driving online interactions that increase customer loyalty and revenue
- **Anticipates business change**—by delivering an “evergreen” solution, one that rapidly changes and improves in response to market dynamics, integrates online into every new product rollout, and smoothly accommodates changes in IT infrastructure
- **Reduces business operating costs**—by bringing customers to the Web and keeping them there, providing them with a resource that delivers better than paper, better than phone, and engages customers by anticipating their needs

Leverage Customer Intelligence to Increase Loyalty and Revenue

The Multifaceted Data Mart: A Foundation for Customer Intelligence

4th generation e-billing implements a powerful data model that drives online billing, analytics, customer service, and ever more importantly, customer intelligence (CI). The multifaceted data mart combines the best features of flat file bill rendering with database driven analytics.

“Flat file” offers unmatched scalability and performance with low operating overhead, producing online bills that look like paper. Traditionally, a flat file’s weakness lies in its limited access to underlying transactional data. Database-driven solutions report trends across bills via highly customised filters, but they don’t look at all like paper bills and require large database servers to scale. A business web portal, which combines the best of each, is ready to deliver the 4th generation solution.

CI ALLOWS A BUSINESS TO LEARN CUSTOMER HABITS AND MAKE UNIQUE OFFERS ON THOSE FINDINGS.

Personalisation

4th generation personalisation technology is driven by the combination of use case, actors, roles, and CI. A “use case” describes an individual’s interactions with an application, directed at achieving a specific goal. An “actor” interacts with the system and performs activities to accomplish tasks. Actors take on “roles,” as standard user, administrator for a user community, or even customer service representative. Business analysts employ actors and roles to offer different experiences to each group of users. By defining use cases for different actors, a single application is easily personalised to match the needs of several user communities.

From Personalisation Based on Role to Personalisation Based on Customer Intelligence

CI drives a more sophisticated form of personalisation. It draws upon a combination of billing information, user behavior and external business information to dynamically personalise a site for an individual. When a user logs on, CI reconfigures the application for that individual, for that session. CI may determine that a user has spent quite a bit of money on specific activities lately, triggering a special offer. CI allows a business to learn customer habits and make unique offers on those findings. CI engages with the customer and keeps the customer engaged as well.

Anticipate Business Change

Executing Use Cases: A Paradigm for Evergreen Applications

Unlike traditional web application development that requires complex, hard-coded business logic, 4th generation e-billing directly executes business-oriented use cases. The applications are incredibly easy to alter and extend, whether the web portal is in the requirements, development, or maintenance phase. Empowering a business to make changes and enhancements quickly and easily helps web business portals stay fresh and engaging, or what the industry calls “evergreen.”

An Integration Architecture That Anticipates Change

A web portal is the customer’s view into a business, and that view will change over time. A 4th generation integration architecture anticipates and manages change in functional requirements; user interaction; branding, products and services; system performance and sizing; customer support requirements; operational procedures; quality processes; existing enterprise systems; and the web business portal software itself. The layered, component-based architecture easily scales for a growing customer base to grow with the needs of the business.

- **Enterprise Integration Services:** 4th generation technology integrates with a wide variety of enterprise middleware architectures including enterprise services bus (ESB), traditional enterprise application integration (EAI), message oriented middleware (MOM), and various ad-hoc proprietary solutions.
- **Services:** 4th generation technology uses service-oriented architecture principles. It implements an ever-growing inventory of web services that deliver key business logic behind important capabilities of a web business portal.
- **Use Cases:** Describe activities in the business domain, allowing business analysts to describe actors, triggers, data, screens, sequences, and errors that may occur. Use cases are incredibly easy to implement and change, and are essential to any 4th generation implementation.
- **Plain Old Java Objects (POJOs):** Marshall services or abstract and implement complex activities on behalf of a use case. POJOs are loaded along with the use cases, making each POJO unique to that application set.
- **User Interface:** Render output from a use case into robust, html output that adheres to Web 2.0 and Cascading Style Sheet 2.0 (CSS2) standards. The UI layer also accepts input and passes that back to the use case, where web flow activities are controlled.

The 4th Generation of Online Billing

Bringing it All Together

4th generation technology allows business analysts to assemble and tune applications in a powerful, business-oriented graphical environment. Analysts create an application by bringing solution elements into the studio. They identify use case actors, manage use case sequences, view and modify proposed screens and data, and publish the results into a complete online billing application. In addition, analysts can create custom use cases based on requirements unique to any business.

Reduce Business Operating Costs

Speed and Quality

Practice has shown that 4th generation e-billing applications are 50% faster to deploy, 300% faster to update or modify and have 30-50% fewer defects than traditional solutions. This can result in as much as 60% savings in maintenance and operations. Because the use case engine enforces industry best practices, applications have fewer development defects. The use case engine implements the “how to,” so typically hand-coded items are all automatic. It’s faster to develop because there’s so little “code,” and it’s much harder to make a mistake.

In traditional web portals, developers must make changes in three or four separate places to modify a user experience. The farther a project gets into development, the greater the potential for negative side effects, forcing developers to move more cautiously, therefore more slowly. With 4th generation technology, changes are quick and easy, allowing experimentation with a change before committing it to product. Unlike traditional approaches where the cost of change increases dramatically as a project progresses, changes in 4th generation solutions cost about the same during usability testing as during elaboration.

Solution Elements Deliver Best Practices

4th generation e-billing solution elements dramatically reduce the operating costs associated with building and managing web business portals to implement industry best practice throughout.

A solution element centres on a set of related user activities. For example, its bill presentation element includes all the use cases necessary to provide 4th generation bill presentation, and includes services that implement key business logic. Special user interface components control the presentation. This element tunes the use cases and presentation to a business portal’s specific requirements. With solution elements, a working application starts on day one.

Plug-and-Play Standards Compliant

A pluggable interface based architecture allows easy integration with existing solutions. Each layer is designed to “plug and play,” working with a wide variety of enterprise infrastructure services, and ready to support a long-term commitment to the evolution and refinement of the user experience.

Start with good underlying data. Build in good business rules that automate the process of calculating and producing reports, check for anomalies and run redundant calculations for data validation. And use a system as flexible as it is fast so that when the SEC or IRS in the U.S., the HMRC in the UK, or any of the other regulatory and taxation entities the business answers to changes their requirements, the business can quickly and efficiently adjust to comply.

ENGAGE CUSTOMERS ACROSS EVERY CHANNEL THROUGH MORE RELEVANT, COST EFFECTIVE, RELATIONSHIP-BUILDING CONTACTS.

4TH GENERATION: GATEWAY TO A HIGHLY PERSONALISED ONLINE RELATIONSHIP

Dynamic statements—online bills that learn, highlighting exceptions to regular activities.

Bill categorisation and split bill capability—let customers categorise line items according to spending type and split bills between personal and business use and more.

Groups and hierarchies—provide businesses with an easy way to organise and control access to online billing information into reporting structures.

Analytics, budgeting and advice—help optimise and broaden customer relationships with the business.

Online payment and adjustments—customers make payments the way they want, through credit card and bank accounts, scheduled payments, and automatic payment.

Help, relationships, and service—a reliable connection allows customers to ask questions, report problems, and track requests through to resolution.

Communities—allow customers to comment on offerings and provide tips, tricks and reviews, while communicating in a way that best suits their organisations.

Flexible workflows—allow customers to implement business processes for approvals, notifications, and integration of community activities throughout your web business portal.

Authentication, authorisation and auditing—manage user profiles and identify users with two-factor authentication, use case roles, and auditing to determine exact user actions.

Adopt the Next Generation of e-Billing Today: Pitney Bowes EngageOne Liaison™ Self-Service Solution

EngageOne Liaison™ offers a comprehensive suite of electronic bill presentment, payment, self-service, billing, mobile and customer care solutions. This rich, highly personalised customer-focused platform delivers a competitive advantage on three fronts: improved customer satisfaction, enhanced customer loyalty and a significantly lower cost of servicing clients.

Liaison is part of the Pitney Bowes EngageOne™ Communication Suite. The EngageOne integrated, multichannel solution enables companies to engage customers across every channel through more relevant, cost-effective, relationship-building contacts.

WITH LIAISON, ORGANISATIONS CAN EASILY INTEGRATE PERSONALISED DOCUMENT CREATION AND HIGH-PERFORMANCE ARCHIVE AND RETRIEVAL CAPABILITIES TO MANAGE A TRUE END-TO-END MULTI-CHANNEL SOLUTION. TO LEARN MORE, VISIT WWW.PBSOFTWARE.EU OR CALL +44.800.840.0001.

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