

# **Housing Finance on the Internet**

## *The Battle for Global Dominance*

**International Union for Housing Finance**

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**TOWERGROUP**

*The Power of Knowledge*

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## Introduction

Housing Finance, is one of the last areas of consumer credit to be affected by the Internet, and indeed by electronic commerce in general. Numerous barriers to true on-line mortgage lending remain in the US, but they are toppling quickly. In Europe and part of Asia however, significant opportunities exist to move much of the lending and processing business to the Internet.

Much of the popular attention on virtual mortgage lending has focused on the origination side of the business, and mostly on trends in the US . Originations has grown rapidly, and much of the thrust has been led by US lenders. However, much of the true opportunity is in the production arena, both in the US and outside. The overall market for true on-line originations remains relatively small compared to the opportunities in virtual production. The potential for the processing and production business is enormous and the potential impact on the industry is much greater than that of on-line originations. In this article we will examine the fact, the fiction, and the future of both of these areas for mortgage banking, and examine some of the reasons why financial services institutions (FSIs) need to embrace, and not fear, the future. We will also examine some of the issues that will limit and drive e-commerce adoption in other regions of the globe.

## Online Lending Around the Globe

On-line lending has garnered considerable attention over the last few years. Already, products such as credit cards and second mortgages are commonly originated via on-line channels in the US, and the trend is extending to 1<sup>st</sup> mortgages. New players such EuropeLoan and E-Loan Europe are bringing US style consumer direct lending to Europe, while in Asia, E-Loan Japan and major banks in India and Japan are racing to be “first to market” with their On-line solutions. Online lending began in earnest in the US in 1996, and originally this channel was widely dismissed by the financial services community. On-line lending has given rise, however, to both a new industry and a new way of conducting business. One that will revolutionize the competitive landscape for many financial products. At the heart of this revolution is the Internet, a new breed of technology, and a new type of player.

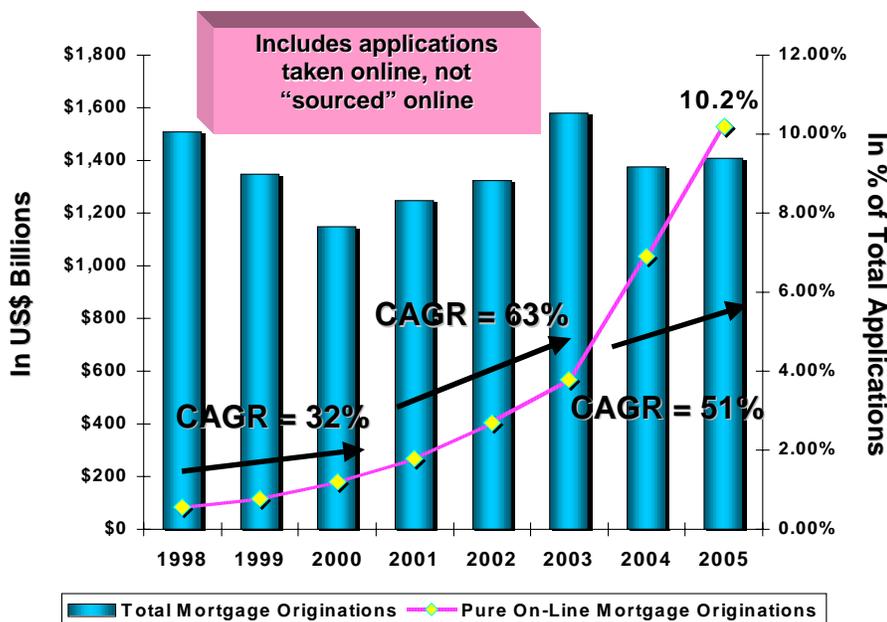
Understanding the foundations of this new business model is important to understanding where it is going and why it is exploding. Beginning in 1996, loan aggregators and Web banks began to emerge in the US. As traditional banks have seen margins erode in their liability businesses (checking, savings, money market, etc.), they have sought to expand their product offerings and customer base on the asset side (loan products, like credit cards, overdraft, mortgages, auto loans, etc.). Loan aggregators and Web (Direct) banks pose a potential threat to the asset product strategy of many FSIs. In addition, FSIs have increased their reliance on re-marketed and co-branded products, like insurance and securities. Aggregators, portals, and Web banks have been quick to expand into these markets as well, presenting a new and real threat to the traditional way of banking and lending.

These online banks have been less successful attracting deposits, but their credit businesses have done remarkably well. The reasons are obvious, if we consider the consumers perspective. When a consumer places a sum of money on deposit with a Web bank, they expose themselves to risk: Is my money safe, Do I really know much about the bank, What if I need cash, What if the bank collapses, However, when the consumer accepts a well priced credit product from a web (direct) bank, the bank

assumes all of the risk. This risk aversion on the part of the consumer is strong, and not likely to change quickly.

While some financial products, like securities trading and credit cards have done very well on the Internet, the numbers are still relatively small. TowerGroup estimates that in 1998, US consumers completed nearly 65,000 mortgage loan applications on-line, which amounted to about US\$8 billion in mortgages. While large, these numbers represent only about 0.46% of the 14 million mortgage applications and US\$1.5 trillion in mortgages originated in 1998. We expect the percentage of on-line mortgage originations to rise to just over 10% by 2005, and then to continue to rise slowly over the next decade. (See Exhibit 1.) However, online originations are cumbersome for US consumers because of the complexity of the transaction, and the number of inputs required from third party suppliers (appraisal, mortgage insurance, title, etc.). This is not the case in most of Europe, South America and Asia however. While consumer adoption may be slower outside of the US, we expect the business-to-business market on the Internet to boom. This said however, we have been astonished at the rate of growth in online equity trading in the German consumer market, and the growth of direct banking.

**Exhibit 1**  
**Dramatic Growth in On-Line Mortgage Originations in the US**



Source: TowerGroup estimates

Source: TowerGroup estimate

**Obstacles to Growth of On-Line Originations**

The first step in discussing on-line originations is to more accurately define the term. In researching on-line originations with FSIs, it has become evident that different FSIs define “on-line originations” in different ways. Many FSIs consider a consumer’s visit to the firm’s Web site and a subsequent e-

mail request for an application packet or a contact from a loan officer to be an on-line origination. In this scenario, the Internet is the identified “source” of the application. TowerGroup defines an on-line application as one in which the application itself is completed on-line, though much of the follow-up work, document exchange, and communications may take place through other channels.

There are a number of reasons why the popularity of on-line originations has grown dramatically and will continue to do so, but several issues must be addressed before this business truly competes with the traditional originations model. Major issues that remain to be resolved are summarized below, as are some of potential solutions on the horizon. Not all issues are relevant in all parts of the globe, but most are universal.

### ***Security***

A wealth of highly reliable security measures exists. Institutions can use encryption, secure socket layer (SSL2), digital certificates, and “cookies.” For many borrowers the prospect of providing very personal and comprehensive information over an Internet connection remains troublesome nonetheless. Consumers are bombarded with warnings of fraudulent telephone scams, confidence games, and more recently, interception of e-mail and data transmissions. Hence, for many consumers the Internet will remain a research tool rather than a transactional medium until they are confident in the security that the Internet affords.

Time and consumer acclimation will slowly break down the barriers to use, as they did with ATMs (automatic tellers). Improving technology will also continue to play a major role as 128-bit encryption and other cryptography options become more widespread. In addition, the use of Financial Electronic Data Interchange (FEDI), Interactive Financial Exchange (IFX), as well as other standards, will provide guaranteed delivery and delivery confirmation over the Internet, similar to that available through EDI networks over value-added networks (VANs) and leased lines. Secure Electronic Transactions (SET) and client-side wallets, will provide consumers, initially in the US and Europe, with personal data security as well.

### ***Brand Recognition***

Another very valid concern remains for many consumers. With the rise of Web banks, aggregators, and portals, consumers are often able to find great rates, prices, and products but offered by unknown entities. While their concern over data being intercepted enroute from point A to point B may be minimal, their uncertainty about the true identity of point B is a concern that is warranted. An attractive Web site and low rates can easily be displayed by anyone with a computer, an Internet service provider, and a phone. Convincing the customer of the legitimacy of the entity on the other side of the connection will continue to be of paramount importance.

Over the next few years, institutions will spend millions to create recognizable e-commerce brand names. Portal and banner ads were initially the preferred advertising medium, but recently firms have focused more attention on traditional media like television, print, and radio. FSIs who leverage existing brand names will have a considerable advantage in this area over firms creating an identity. We have already begun to see the acquisition of relatively young e-commerce firms like US-based GetSmart.com (purchased by Providian Bank), and will likely see considerably more of such acquisitions as existing FSIs seek to merge their brands with existing e-commerce expertise.

*Identity*

The converse is also true. Verifying the identity of consumers applying for loans on-line and obtaining a valid signature is a legitimate security concern for the financial service institution. FSIs have dealt with credit fraud for many years, particularly since the proliferation of consumer credit in the U.S. The Internet, while providing faster and more automated loan originations, also provides a fertile ground for consumer credit fraud.

Though it is unlikely that a fraudulent mortgage loan would be closed, it is highly likely that a fraudulent application would be received from an imposter posing as a legitimate consumer and then processed. Since personal information of the legitimate consumer whose identity was “stolen” would be exchanged with the perpetrator, this would expose the institution to possible legal action by the injured consumer whose identity was compromised. It would also result in significant costs for processing and detecting the fraudulent application.

Efforts are currently underway to develop standards and mechanisms for identifying individuals and allowing for electronic digital and digitized signatures and digital certificates. Intel, in its Pentium III product, has also attempted to incorporate electronic digital IDs, but most feel that this method falls far short of the level necessary, though it may be effective in concert with other methods.

*Counseling*

Mortgage lending, unlike any other area of consumer lending, requires a wealth of data from the applicant, as well as detailed collateral information. A simple question about income can become quite complex for applicants who are self-employed or for whom commissions or bonuses comprise a substantial portion of their income. In addition, every nation has unique government regulations that govern real estate financing transactions and require certain product, rate, closing cost, and financing disclosures.

Few borrowers engage in real estate transactions frequently enough to be comfortable with the process, and most find it overwhelming. Many on-line originators are “high-tech” at the expense of “high-touch”, offering very little personal customer service. As a consequence, many borrowers prefer to use the Internet as a tool for comparison shopping and research and then to apply for a loan in person with a local originator.

Those on-line lenders who offer borrowers more personal assistance will be more successful. Those who provide toll-free phone numbers, local representatives, and Web access synchronized with access to a customer service representative (CSR) will find borrowers more amenable to the idea of applying on-line. In synchronized Web access, the lender provides a phone number the applicant can dial, in the midst of applying on-line over a secure page, to reach a customer service representative. The on-line page has a code that the customer can provide the CSR to indicate where he or she is in the Web application. The CSR can then walk through the Web page in question with the customer, and if necessary the remainder of the application. In answering questions, the CSR can use a cursor on the customer’s screen to point out items on the page and lead the customer through required calculations and interpretations.

The more recent iteration of this is real-time chat, both audio and audio-video. As broadband access becomes more widely available, on-line firms will offer full video conferencing, Internet chat and

voice over IP solutions that will allow the customer to click a “Help” button and generate a real-time feed with a live CSR. The applicant will be able to communicate with the CSR, and the CSR will be able to drive the customer’s browser through the process.

Finally, successful firms will be those that avoid the temptation to simply divide a standard mortgage application into discrete pieces and require their completion on-line. Quicken’s TurboTax product became successful because of its simple, intuitive interface and interview process. In the TurboTax model, loan applicants answer simple, direct, and pointed questions presented on-line. The answers are automatically parsed and the data distributed to the appropriate locations throughout the application and disclosures. As each set of questions is completed, the application is dynamically updated, the information saved, the cookie updated, and a new page generated based on the answers provided. Should a connection be dropped, the process need not be restarted.

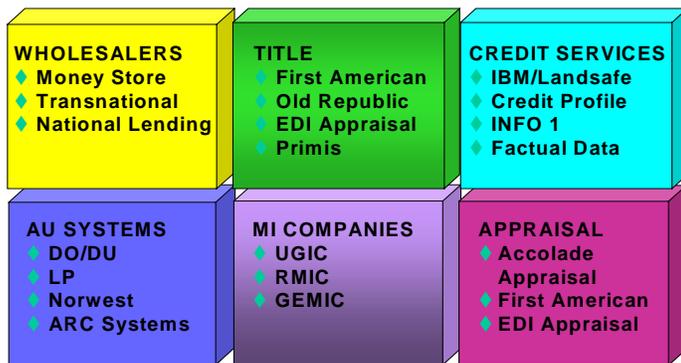
**Third-Party Providers (TPPs)**

This is an area that differs widely throughout the world. While the US may have the most mature mortgage market and the most standardized credit criteria, it is accompanied by the most cumbersome, time consuming and third-party intensive process in the world of consumer finance. Most consumer credit products are approved on the basis of a simple application and a credit report. Some products, like auto loans, also require proof of insurance and a purchase and sale agreement, for analysis of the loan collateral. US Mortgage lending, however, requires the input of numerous third-party providers (see exhibit 2), including credit, automated underwriting, title, mortgage insurance, property insurance, legal documentation and disclosures, etc. Simply taking the application electronically does not imply that the application can be processed, approved, and closed electronically. In Europe however, the process is imminently simpler. A typical application can take up to 6 weeks to process in the US, while the average time in Europe can easily be less than 1 week. Limited consumer credit data availability, discussed later, is the only real shortcoming.

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**Exhibit 2**

**US Third-Party Providers Provide Building Blocks for Internet Lending**



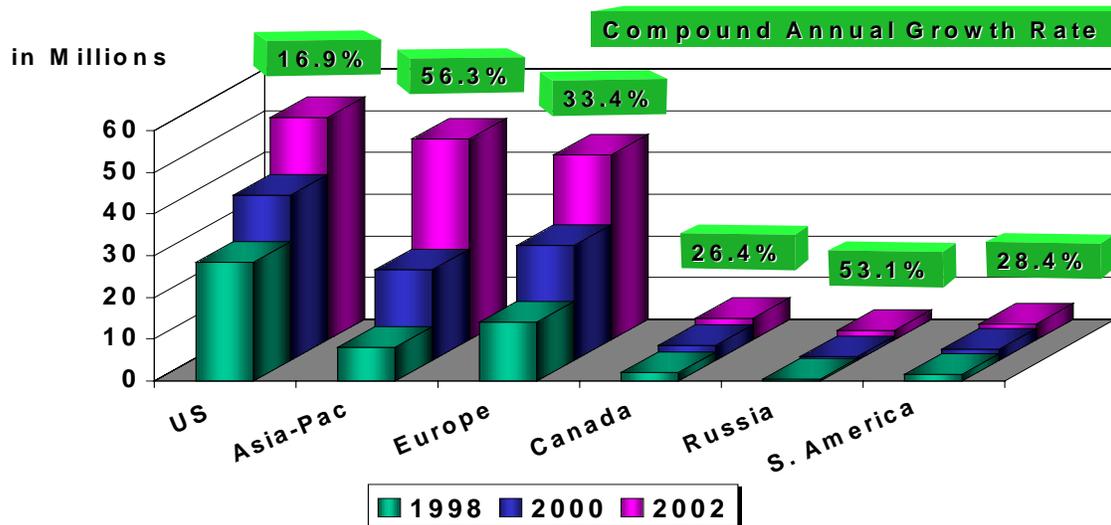
Source: TowerGroup

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*Access*

Though over 30% of US households and over 21% of European households have access to the Internet, many connect over 28K, 33K, and 56K dial-up connections. In Asia and South America, speeds tend to be 16K to 28K on average, while in Europe, ISDN (128K) has become more common. The long mortgage application therefore can require quite a bit of time to complete if the connection is slow, the line has noise, weather interferes, or large packets are exchanged in the screen refreshes and data transmissions. Exhibit 3 indicates the current percentage of households that are Internet enabled in various regions. It also projects the growth of that segment.

**Exhibit 3**  
**Growth in Global Internet-Enabled Households**



Source: TowerGroup estimates

Source: TowerGroup

Providing answers to this problem of slowness are various broadband solutions. Digital Subscriber Lines (DSL), the Integrated Services Digital Network (ISDN), and cable modems are becoming readily available throughout the United States, and ISDN is already in Europe. Most recently, cable modems are proliferating in the US, operating at speeds up to 50 Mbps, though most operate through a T-Base10 Ethernet and are thereby limited to a theoretical 10 Mbps, and 1.5 Mbps is more common.

*The Paper Chase*

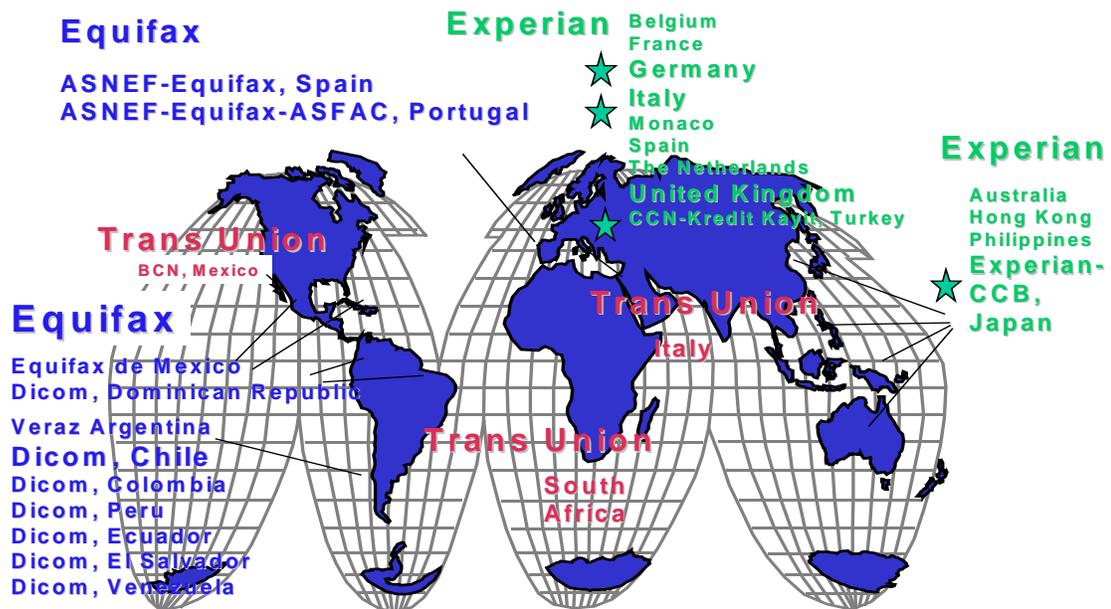
Despite the use of electronic file formats and EDI, there remains a considerable amount of paperwork in the current mortgage process. W-2s, pay stubs, and tax returns are often required for income verification. Bank and brokerage statements are used to verify funds to close. The automatic underwriting process often determines the need for these items and, depending on the lender, may require submission prior to closing or may be collected at the closing table. The higher the credit

grade of the applicant, the more likely that these items will either not be required or may be collected at closing.

**Available Consumer Credit Data**

Consumer credit data is widely and easily available in the US, and in several other nations, including Canada, the British Isles, Hong Kong and Australia. Outside of these area however, data is less comprehensive and the use of it is more restrictive. As a result, lenders often place direct telephone calls to creditor to verify payment terms and experience. However, the use of credit outside of the US has been far less pervasive than in the US, and most consumers have 4 or less trade lines, versus 8-15 in the US. Despite this, credit repositories are expanding globally, providing more robust data sets about client repayment behavior. Exhibit 4 provides an overview of expansion activities of the 3 major global credit repositories.

**Exhibit 4**  
**The Big 3 Credit Bureaus Go Global**



Source: TowerGroup

**Keys to Successful On-Line Mortgage Lending**

For all on-line lenders, there are several keys to turning an on-line lending strategy into a success. A lender must seek ways to increase traffic to its Web site and then turn those hits into applications. Part of the challenge is to get consumers to associate a site with specific financial services, and then

to anchor the consumer to the site, turning a convenience into a relationship. Too many consumers use Web sites simply to gather information and compare rates. They then use this information as a benchmark when shopping locally. We have identified a number of factors that will be key to the success of mortgage firms establishing a presence on-line:

1. **Provide “high touch” along with “high tech.”** Do not force customers to “go it alone” without the aid of a qualified counselor, should the customer require or desire assistance. Display the contact information prominently on the Web site and throughout the application process. For most FSI's, the on-line channel should exist as a complement to the FSI's physical channels.
2. **Improve pricing.** The Internet business model is based on passing on to the consumer the savings from the disaggregation of several players in the process. FSI's with production shops and capital market or funds access have a significant advantage in cost of funds, and can pass the savings of direct sales on to the consumer.
3. **Gain a competitive advantage in technology.** Use virtual production to automate most facets of loan production or partner with processing outsourcers. Banks with streamlined processes can maintain lower production costs which, combined with servicing revenue, will generate greater overall profits on lower retail pricing.
4. **Generate multiple product bookings from each application or referral generated.** This strategy entails issues of data ownership for FSI's and aggregators alike, as well as questions of permissible credit data use. However, such multi-product approvals are ways to increase the revenue per customer, and more importantly, the relationship. Customer Relationship Management (CRM) is of particular value here.
5. **Attract traffic to the Web site without the high cost of portal and banner ads,** and then convert the hits to applications. Banner and portal advertising strategies must be carefully evaluated. Most do not provide the returns expected. Partnering with other horizontal product providers is an emerging trend.
6. **Make the site “customer friendly,” easy to navigate, and content rich.** Offering customers re-marketed products and links to partners can increase the value of the site beyond the FSI's limited offerings and induce the customer to return to the site after obtaining the loan.
7. **Allow profiles, like Quicken, and provide links to other, complementary services.** For security, customers prefer that their profiles reside on their own machines but be invocable via cookies or other means when needed by the FSI. This allows consumers to apply quickly and easily for other products and search through product databases, and it provides a backup of important data. It also allows the FSI to personalize content for a visitor who returns.

### **Virtual Production—The Future of Mortgage Processing**

Over 20 years ago, major automobile manufacturers like Toyota and GM introduced Electronic Data Interchange into their production processes. They created networks of interconnected suppliers, vendors, and subcontractors, automating all aspects of ordering, billing, invoice tracking, and materials and resource planning. Today we see this model beginning to make major inroads into mortgage lending. Despite the tremendous expected growth in on-line originations, we expect on-line production service (business-to-business) to grow at several times the rate of on-line origination service (business-to-consumer). This growth is largely fueled by the following factors:

1. Businesses are more comfortable with the technology.
2. Access by means of value-added network (VAN), virtual private network (VPN), and Frame Relay affords greater security and guaranteed delivery.
3. There is greater certainty about whom you are dealing with at the other end of the connection.
4. Virtual production affords opportunities to streamline the process and cut costs. The desire to utilize technology is forcing a change in an antiquated model.
5. Whether the application is completed on-line or by an intermediary, the data is already in a digital format for most lenders, the challenge then is integrating disparate systems.
6. Eventually, access to channels and providers may only be available digitally as the cost differential between digital and manual interfaces widens. Lockout becomes a concern, and the fees charged for services that are not automated may rise, discouraging their use (e.g. airline paperless tickets in the US).

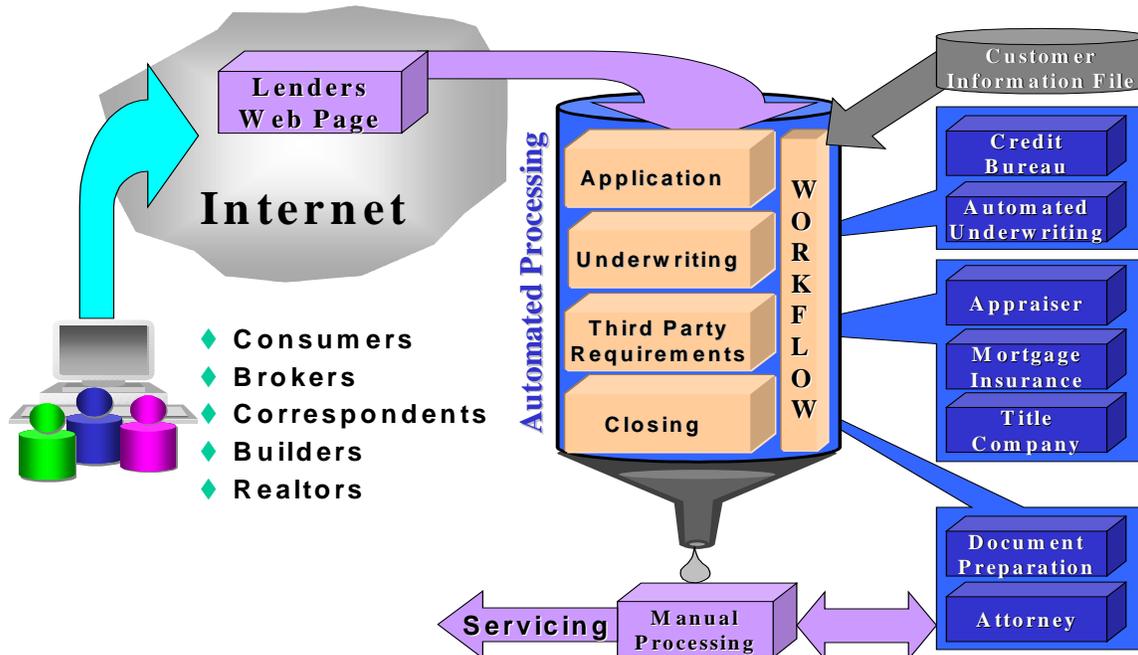
#### **Virtual Production: The Key to Cost Efficiency**

Most point-of-sale (POS) and Internet-based applications create electronic files as the loan application data is entered. For many firms, this file then passes into a loan production system, where it is “workflow managed,” i.e., by an automatic workflow engine, through the firm’s internal production process. Most systems have interface to some external providers, like credit agencies or closing agents and appraisers. Most other third-party contact is routed by workflow to an individual within the production center. This person then orders the required items, inputs the order date and information into the systems, and then updates the record when the item is received, or follows up when the item is escalated (past its allotted time) by the workflow engine.

The challenge then is to pass these third-party requests on to third-party providers and third-party systems electronically, and to allow the workflow engine to monitor the status of these requests across other systems. When an item is received, the engine should update the task’s status and route the application as necessary. If the task is not completed in the allotted time, the engine should send a follow-up request and escalate the importance of the task and generate an exception item. While more robust workflow-enabled systems do perform this level of task tracking, oftentimes the third-party provider receives a fax or electronic request, performs the work, and then mails or faxes the results to the FSI. Even when the task request is generated electronically, the process eventually often includes significant manual components.

In many markets outside of the US, only a link to the Funder, Closer and Appraiser is required, allowing a loan to be processed and closed in a minimal amount of time. Exhibit 5 provides an overview of the loan production cycle, with an eye toward the workflow management of third-party requirements. While the number of third parties will vary, the underlying premise stands.

Exhibit 5  
Virtual Production Brings Efficiency to the Lending Process



Source: TowerGroup

**Service Bureaus: Making the Internet Viable for More Participants**

Service bureaus (SBs), Application Service Providers and utilities for account processing, application processing, and merchant transaction processing have been common for many years in the credit card industry. Their use by the mortgage industry has been limited almost exclusively to the servicing side. However, changes in this pattern are occurring and their usage is expected to increase, particularly outside of the US as lenders begin expanding into neighboring countries, looking to providers to assist them. In the US, new solutions from Xpede, Keystroke and ARC Systems provide unique and powerful product selection and underwriting capabilities, as well as dynamic application generation as the consumer completes an online application. Both of these firms are eyeing the European market.

In Europe, the US vendor Alltel will shortly enter the market with a European flavor of its successful US mortgage servicing platform. Woolwich and Countrywide, in a Joint venture, are expected to begin exporting their efficiencies to other lenders in the UK, and eventually to continental Europe. The Dutch firm, Stater: The Euroservicer, has made significant inroads in the Netherlands, and has now expanded into Germany and Belgium, and will likely have a presence in 7 European countries over the next 18 months. Most of these firms do not compete directly with their lending partners. These providers are focused on providing their partners with the tools, market knowledge, funding

partners and distribution capabilities that will help make the lender, and consequently themselves, successful.

### **Looking Ahead**

Mortgage lending was once, and generally remains a national business. However, the Internet is having a major impact on how business is originated, processed and funded, as well as helping to erode national boundaries. Significant advances can be expected over the next several years, and understanding the trends and options is key to preparing for the future of mortgage lending. The pace of innovation itself has accelerated, and many view that trend as continuing. The Internet has broad implications for all aspects of lending, and presents both challenges and opportunities. Both must be considered in concert with the organizations goals and culture, as well as within the legal and regulatory framework that the institution operates within. The Internet is not a panacea however. Taking an inefficient cost and operations structure to the Internet can hasten the pace of a firm's demise. However, the learning opportunities that the Internet affords can have a significant impact throughout an organization, even if it never actually lends on the Internet.

