

Identity and Privacy Strategies

In-Depth Research Market Landscape

Provisioning Market 2009: Divide and Conquer

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TECHNOLOGY THREAD:

Provisioning Market

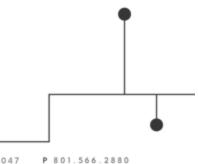


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Summary of Findings

Bottom Line: Compliance initiatives have thrust provisioning technologies into high demand. However, faced with volatile economic conditions, more and more organizations are justifying provisioning deployments on the basis of operational efficiency and cost reduction. Provisioning technologies are advancing in areas of identity audit, access certification, role management, and business enablement. Although the market is competitive, clear leaders have emerged, namely IBM, Oracle, and Sun Microsystems. Major-brand vendors such as Novell and CA are also highly competitive. Smaller vendors are struggling to compete against the development teams, global sales presence, and partner ecosystem of these powerhouse vendors.

Context: Provisioning is an important subset of enterprise identity management (IdM), providing a pivot point for user account management in large organizations. Provisioning projects were once viewed as the road to administrative efficiencies. Indeed, many provisioning solutions have delivered on their promise to reduce both the amount of time it takes to make someone productive and the time it takes to shut down access for terminated employees. But provisioning's place in the IdM landscape has shifted dramatically as business needs have shifted to user identification and resource access controls for regulatory compliance. Today, organizations are investing in provisioning as a means to demonstrate compliance, which has changed the nature of the provisioning market.

Takeaways:

- Compliance continues to be the key business driver for provisioning deployments. However, organizations are increasingly faced with financial uncertainties and are turning to provisioning systems as a means to improve operational efficiency and reduce costs.
- Provisioning technologies have expanded and matured but remain difficult to implement:
 - The scope of provisioning has expanded over the years. Today, provisioning systems support not only user account provisioning, but also workflow, self-service, delegated administration, access certification, audit and reporting, separation of duties enforcement, and password management features.
 - As the scope of provisioning expands, provisioning vendors have had to focus efforts on adding new features rather than improving the existing infrastructure of the system. As a result, many provisioning solutions have problems with usability, scalability, and performance
 - Provisioning technologies are often described as "immature," but a more accurate description would be "complex and difficult to implement."
 - Implementing a provisioning system requires in-depth technical expertise. Provisioning systems are more
 of a development platform than an application layer and must remain as such in order to provide the
 flexibility necessary to automate complex business processes.
- The provisioning market is tumultuous. Several vendors have been acquired, while others have exited the market altogether. As the market has evolved, clear leaders have emerged:
 - Oracle, Sun, and IBM lead the market, as they have captured a dominant share of customers and are
 offering innovative solutions that will drive technologies forward.
 - Novell and CA are also very competitive in this market. These vendors are making investments and entering strategic partnerships.
 - o Courion remains a top contender but has lost market share to Oracle, IBM, and Sun.
 - European vendors such as Siemens, Beta Systems, and Evidian are competitive in their geographical region but have not gained traction in the global marketplace.
 - SAP and Microsoft have the potential to change the dynamics of the provisioning market as they ramp up their respective provisioning offerings.
 - BMC is differentiating itself by pursuing ITIL and business service management (BSM) customers that require strong integration with a configuration management database (CMDB)
 - Small vendors are struggling to remain viable as they compete against large, major-brand vendors.
 - Some small or niche vendors are changing their go-to-market strategy. Vendors like Ilex, Omada, and Voelcker are concentrating on business-friendly interfaces, compliance features, role management, and other add-on features, and they are going into customer sites as a front end to traditional provisioning systems (particularlyMicrosoft Identity Lifecycle Manager [ILM]).

- Selecting provisioning technologies can be an arduous task. Burton Group recommends that organizations take the following steps as they begin the evaluation process:
 - o Understand the organization's principles (e.g., suite vs. best of breed or regional vendor vs. global)
 - Understand the technical differences between the products
 - o Build a short list that includes two to four vendors
 - Conduct a proof of concept
 - Solicit references
 - o Involve qualified and experienced system integrators and deployment professionals

Conclusion: User provisioning is viewed as a critical component in the efforts of many enterprises to maintain compliance with an ever-growing number of laws and regulations. Increased demand has helped to cause a reshuffling of vendors in this market through acquisition, but more than 20 vendors remain in a very crowded market. Product evaluation and selection is difficult and confusing as enterprises compare requirements against the various vendor approaches. However, product selection is only part of the journey to successful implementation. Enterprises should also apportion adequate time to project planning and preparation.

Analysis

The provisioning market is often considered the cornerstone of the identity management (IdM) market. Provisioning products have been on the market for several years and have reached a relative level of maturity. As provisioning products have matured, they have expanded in scope. Next-generation provisioning products offer a lot more than user account provisioning, including user profile and account management, self-service, delegated administration, workflow, password management, and audit and compliance capabilities.

As the market has evolved, clear market leaders have emerged, namely CA, Courion, IBM, Novell, Oracle, and Sun Microsystems. These vendors have quickly responded to the evolving market dynamics both through acquisition and product development. It has become increasingly difficult for smaller players to compete against the investment dollars, development resources, marketing machines, consulting services, and sales forces of these large vendors. To remain competitive, smaller vendors are differentiating themselves by specializing in a certain vertical market or geographical area. Others are specializing in role management, Active Directory (AD) group management, workflow, or other front-end capabilities and positioning themselves as an add-on component to a traditional provisioning system. Other vendors have established strategic partnerships with large vendors such as Microsoft and EMC, which bring the provisioning vendor into customer engagements in order to fill gaps within their own solutions.

Despite product advancements and integration efforts, provisioning deployments remain arduous. Deployments typically extend into multiphased, multiyear undertakings. Although this phenomenon has largely been blamed on technology, as best practices evolve it is clear that business process engineering has an equal or greater role in determining the success of these projects. A liberal amount of effort must be dedicated to documenting business processes, sorting out and cleansing identity data, translating processes into product-specific workflow or rules engines, and integrating the products with existing IdM infrastructure. Therefore, engaging a knowledgeable and capable system integrator (SI) partner is a key to success. Many provisioning projects are enterprise-wide initiatives, with several planned phases to roll out coverage based on platform, functionality, or user community.

Provisioning Defined

Burton Group defines user provisioning as "the integrated set of tools used to manage the lifecycle of user entitlements." When evaluating provisioning products, decision makers should understand the core components and features that any provisioning solution must provide to be an effective enterprise solution. Figure 1 displays Burton Group's template for provisioning systems, but product implementations vary from this model according to each vendor's philosophy, expertise, or approach. Enterprises can utilize the Reference Architecture technical position "User Provisioning" to structure their provisioning deployments in a vendor-neutral fashion. The major components of Figure 1 are discussed in the "Provisioning System Components" section of this Market Landscape document, and further explanation of the template can be found in the Reference Architecture template "Provisioning Services."

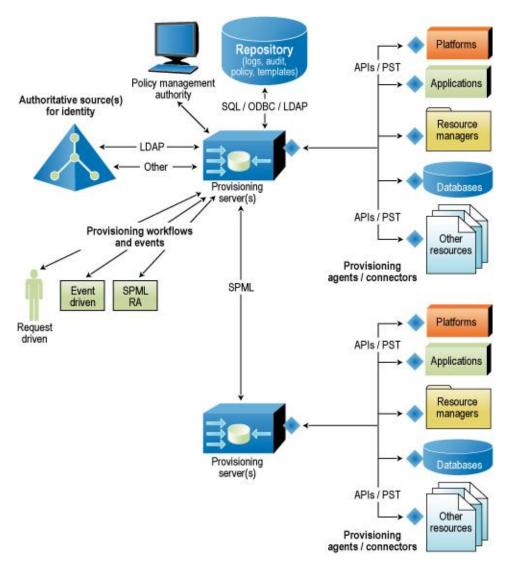


Figure 1: *User Provisioning Template*

Provisioning implementations vary by vendor and by organization. Burton Group recently interviewed several organizations that have deployed or are deploying a provisioning solution, as detailed in the *Identity and Privacy Strategies* overview "Provisioning: A Brutal Assessment of the Enterprise Experience." The definition of "provisioning" varied widely among these organizations. For some, a successful provisioning deployment was manifested through a workflow-based access approval system—user accounts were not automatically provisioned at all. For other organizations, success was measured by the number of connected systems for which user account provisioning had been automated.

The term "provisioning" is used in the industry as both a noun and a verb. The noun form refers to packaged provisioning components (e.g., a set of workflows, policies, password management, connectors, and user interfaces). The verb form refers to the automated act of provisioning and deprovisioning user accounts in target systems. Burton Group's research showed that while many organizations have deployed some portion of a provisioning product (the noun), they have not yet accomplished automated user account provisioning (the verb). However, in most cases, these organizations viewed their deployments as successful, albeit ongoing.

Organizations should fully understand and manage their individual expectations of a provisioning solution. Ultimately, deployment success is measured against each organization's unique definition of provisioning—not the definition communicated by a specific vendor.

Provisioning's Core Business Value Proposition: Getting Back to Its Roots

In the early days, provisioning solutions were sold based on the business value proposition of operational efficiency and cost reduction. Vendors touted benefits such as improved security with zero-day start and zero-day stop, cost savings through reduced helpdesk calls, improved business efficiency with automated user account provisioning, and business enablement with self-service. However, the introduction of the Sarbanes-Oxley Act (SOX) sent the demand for provisioning and access management solutions into high gear. Compliance with regulatory mandates quickly became the primary business driver for most provisioning deployments.

In response to the market's demands, provisioning vendors have expanded their provisioning solutions to include audit and reporting, access request systems, approval workflows, identity audit (IdA), access certification, alerting and notification, and dash boarding solutions. Vendors are also extending support for role management; governance, risk, and compliance (GRC); and security information and event management (SIEM) systems. Meanwhile, customers continue to further drive demand for features such as risk analytics, activity monitoring, and privileged account management. Needless to say, the provisioning market has had a love affair with compliance.

Although compliance has been, and will continue to be, a primary business driver, a shift in market dynamics is occurring. World economies are strained. Businesses are being forced to do more with less. Markets are consolidating through buyouts, mergers and acquisitions, and employee layoffs. Operational efficiency, cost reduction, business agility, and security are once again organizational priorities. As a result, the provisioning market has come full circle. More and more organizations are identifying cost reduction and improved business efficiency as the primary business drivers for provisioning deployments.

Organizations are demanding solutions that address compliance needs as well as improve business agility, operational efficiency, and reduce costs. As discussed in the "Technology Trends" section of this Market Landscape document, provisioning vendors are aligning their go-to-market strategies and technology roadmaps with these market demands.

Technology Advancements

As mentioned in the "Provisioning's Core Business Value Proposition: Getting Back to Its Roots" section of this Market Landscape document, compliance has been the primary business driver for provisioning deployments for the past few years. As a result, technology advancements have centered on audit, reporting, and compliance technologies. The primary responsibility of a provisioning system has always been the enforcement and management of users' access privileges. However, with the advent of SOX, organizations began demanding finergrained policy definition, workflow-based access approvals, access review and certification, detailed reporting capabilities, and role management. The motto for provisioning became "Answering the question: Who has access to what, when, and how?"

As the market has evolved, provisioning systems have become access compliance platforms. Access certification has replaced password management as the "quick win" for provisioning deployments. Many organizations implement automated access certification processes and approval workflows before ever deploying a provisioning connector to a target system. This allows them to show that the business realized benefit in a fairly short time period.

As customers' compliance needs have become more sophisticated, provisioning vendors have responded. Vendors offer tools that provide access certification, real-time policy analysis, risk analytics, enforcement of preventative controls such as separation of duties (SoD) violations, orphaned and rogue account reconciliation, reporting, and notification capabilities. Some vendors deliver stand-alone IdA offerings, others have partnered with role management vendors that offer these capabilities, and still others have embedded this functionality directly into the provisioning system itself.

Although vendors continue to build IdA capabilities, the market has shifted its focus to role management. Organizations are seeking more sustainable methods to encapsulate and implement dynamic business, security, and access policies—and roles are the construct of choice for many. More information on how to use roles can be found in the Reference Architecture technical position "Roles." Role management is covered in detail in the *Identity and Privacy Strategies* report "Understanding Role Management Applications: No Pain, No Gain."

Organizations scarcely mention provisioning without mentioning role management. In response, vendors have made strategic acquisitions and established key partnerships with role management vendors. For example, Sun acquired Vaau, Oracle acquired Bridgestream, and CA acquired Eurekify. Novell has entered into an original equipment manufacturer (OEM) partnership with Aveksa and Eurekify, respectively. Beta Systems and Courion both offer complete role engineering solutions that enable role mining and discovery. Although the majority of vendors support role-based provisioning, the market is demanding more. Role management integration will continue to be a primary area for development in the coming months.

Organizations are often concerned with what to implement first: provisioning or role management (the chicken and egg syndrome). The two are independent of each other; provisioning and role management initiatives can be run in any order or in parallel. Clearly defined roles will obviously assist in defining provisioning policies. However, for some organizations, role management projects drag on for months and even years. The same can be said of provisioning deployments. For most organizations, it's best to run the initiatives in parallel, by assigning high-level access policies through the provisioning system and integrating roles as they become available. It is important for organizations to clearly define the responsibilities of the provisioning system versus those of the role management system. Incorporating roles into a provisioning deployment introduces another policy silo that must be maintained.

Provisioning systems were never designed to be compliance platforms. Therefore, vendors have had to invest significant resources into expanding provisioning systems to support audit, compliance, and role management capabilities. This has come with a cost. Investments in improving the provisioning system infrastructure, usability, scalability, and performance have been second to investments in new technologies. However, vendors are becoming more attuned to this. For example, CA and IBM have released product updates that significantly improve usability and performance. Sun is likewise making moves to improve the usability of its system. SAP and Hitachi ID Systems (Hitachi ID) will soon be releasing revamped versions of their products that will also improve usability and performance. This trend is positive.

Support for third-party systems has also seen significant growth in the past year. Novell, CA, and IBM provide integrated solutions for their SIEM systems. Sun has entered a partnership with SIEM vendors LogLogic and ArcSight to provide similar capabilities. This area will be one of continued growth, as customers are not only asking "who has access to what" but also "what are users doing [with the access that they have been granted]." Answering these questions has driven an increased emphasis on user activity monitoring and reporting.

BMC Software, CA, and IBM have further integrated provisioning solutions for their IT service management ITIL based offerings. These solutions provide deep integration with configuration management databases (CMDBs), helpdesk systems, change management systems, and service request catalogs. This integration is becoming increasingly important for organizations, as ITILv3 now includes access management as a service operation.

Vendors have also further extended their integration with enterprise application controls management (EACM) applications such as Approva, SAP GRC Access Control, and Oracle GRC. These vendors provide low-level access controls and SoD enforcement for critical resources, including financial systems and enterprise resource planning (ERP) applications.

Technology Trends

As described in the "<u>Provisioning's Core Business Value Proposition: Getting Back to Its Roots</u>" section of this Market Landscape document, demand for provisioning solutions is being driven by two distinct forces: compliance with regulatory mandates and operational efficiency/cost reduction. Trends in the provisioning market closely align to these two business drivers.

Compliance is driving innovation in the following areas:

- Access certification (connected and nonconnected systems)
- · Advanced reporting
- Role management
- Integration with SIEM systems for detailed activity monitoring and risk analysis
- Integration with GRC access control systems for SoD controls in critical applications such as ERP systems
- Real-time policy analysis
- · SoD policy management and enforcement
- Finer-grained provisioning (AD group management, attribute-level provisioning)
- · Privileged user account password administration

Operational efficiency and cost reduction is driving innovation in the following areas:

- Usability and performance improvements on the core provisioning system
- Business enablement through improved self-service and delegated administration capabilities that can be pushed to business users
- · Role management
- Service management and helpdesk integration
- · Asset management
- Integration with business process management (BPM) systems
- Integration with business intelligence (BI) systems
- Improved application integration (including SharePoint and human resources [HR] applications)
- Improved connectors and Service Provisioning Markup Language (SPML) support

The IdM market as a whole is maturing. Customers are demanding scalable solutions. The market is moving toward identity services for use in service oriented architecture (SOA) environments. As the industry moves in this direction, provisioning vendors are enhancing their products to support standards such as SPML, Business Process Execution Language (BPEL), and web services. Vendors such as SAP, Oracle, IBM, and Microsoft talk of a world of externalized security, application support for SPML, cloud computing, and thin clients. The niche vendors OpenIAM and Institut für System-Management (iSM) have built their architectures around a SOA infrastructure. As this vision becomes a reality, provisioning vendors must be prepared.

In the previous iteration of this Market Landscape document, "Provisioning Market 2008: Survival of the Fittest," Burton Group included a trend meter. This meter has been updated to reflect the current technology trends and priorities in today's market (Figure 2). *All* of the features listed are high priorities on vendors' roadmaps. The trend meter represents the urgency of each feature.

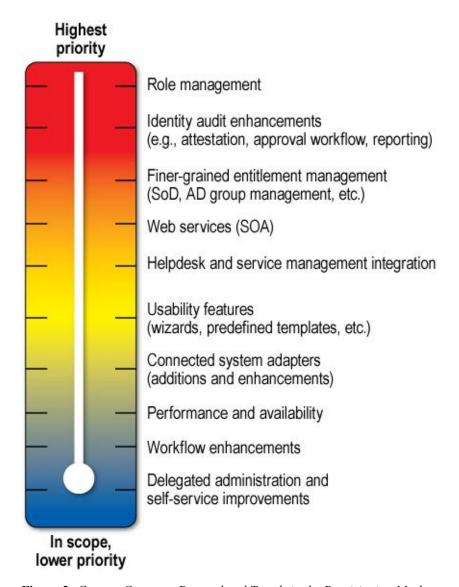


Figure 2: Current Customer Demand and Trends in the Provisioning Market

Product Maturity: Splitting Hairs

Most provisioning technologies have been on the market for six to eight years and are therefore maturing. "Mature" is, however, a relative term. In fact, many provisioning customers would argue that provisioning technologies are far from mature. Burton Group's perspective is that provisioning technologies are not immature, but are rather complex and difficult to implement. Provisioning solutions are similar to ERP applications or development platforms in that the system is automating complex business processes that are often misunderstood or undefined.

Originally, provisioning products were intended to do just that: automate user account provisioning. At one point, the race to dominate the provisioning market was all about connectors. Vendors differentiated themselves primarily on the number of target systems connectors they delivered out of the box. Soon, product boundaries were expanded to include password management; workflow; and later self-service, delegated administration, audit and reporting, access certification, etc. Today, vendors have enough generic connectors that they can connect to almost any system; a provisioning system without workflow capabilities is not considered a provisioning system; and audit and reporting are standard features.

The market has reached a level of maturity such that vendors can no longer differentiate themselves based on a "feature set." Burton Group recently conducted a competitive analysis of the provisioning market, detailed in the "Competitive Analysis" section of this Market Landscape document. This assessment was based on several factors including product features, architecture, and performance. As we conducted the survey, it became apparent that there are only minor variations in product features among the different vendors. This type of commonality is often a trademark of a mature market.

As customers compare the product feature lists of one vendor to another's, it seems they must split hairs. So how do customers determine product differentiators? Differentiators are not found in the question of "whether" a vendor supports a feature but rather in "how" the feature is supported. For example, in product demos, vendors often show user-friendly interfaces with advanced delegated administration functionality. However, what they do not disclose is that those interfaces are based on custom forms that may take months for the customer to duplicate in its own environment. Burton Group encourages customers to conduct an exhaustive request for proposal (RFP) and proof of concept (POC) process to ensure that the vendor's product truly aligns to the customer's business requirements.

As product feature sets level out, other aspects of product selection become increasingly important. It is imperative that customers consider the vendor's ability to provide effective customer service, deployment resources, rapid response times, and technical support. Customers should have a solid relationship with the vendor and be able to influence product roadmaps. Last, but certainly not least, customers should carefully select a system integration partner that has in-depth experience and expertise in the product.

Although provisioning products are reaching a relative level of maturity, innovation is not dead. As described in the "<u>Technology Trends</u>" section of this Market Landscape document, vendors continue to innovate. Innovation is primarily centered on integration with third-party systems and on improving the performance and usability of core provisioning components. Furthermore, identity services have the potential to significantly change the provisioning market. All of these factors combined emphasize the importance of not only selecting a product, but also selecting a vendor with whom the organization intends to have a long-term relationship.

Status of Provisioning Standards

Provisioning standards have not yet enjoyed the notoriety, or the adoption, of other IdM standards. However, as stated in the "Technology Trends" section of this Market Landscape document, support for identity services and SOA is of high priority for many organizations and, consequently, for vendors. In this spirit, vendors are heightening product support for provisioning-related standards, such as SPML and BPEL.

SPML is the predominant provisioning-related standard. SPML version 2.0 was approved in April 2006. The majority of provisioning vendors support incoming and outgoing SPML events. SPML can play a key role in several scenarios, such as connecting authoritative identity sources to the provisioning server, integrating provisioning servers from different vendors in very large enterprises, and provisioning access across partner applications. As discussed in the *Identity and Privacy Strategies* Technology & Standards document "SPML: Gaining Maturity," SPML will not reach a saturation point until a significant number of target resource systems (especially business applications) support the standard.

BPEL has also become a prevalent standard in the provisioning market. Several vendors have announced support for the standard, including Courion, IBM, and Oracle. BPEL allows organizations to assemble disparate business services into a single process flow. BPEL can be used to represent and control workflows used in provisioning processes. Burton Group believes that adoption of BPEL will accelerate as organizations move to SOA.

The role-based access control (RBAC) model has also gained traction in the provisioning market as role management functions are added to products. The RBAC model helps organizations define relationships between users and roles and between roles and permissions. For further information on role management and RBAC, refer to the *Identity and Privacy Strategies* Methodologies and Best Practices (MBP) document "The Business of Roles".

As discussed in the *Identity and Privacy Strategies* overview "<u>Identity Management Market 2008</u>: <u>Busting at the Seams</u>," IdM vendors are making a deliberate shift from suites toward services-based modules. However, vendors have yet to recast features of provisioning, directory services, and single sign-on (SSO) products as generic IdM services. Some products provide web services interfaces for automation, but they fall short of a general-purpose identity services layer (as discussed in the Reference Architecture template "<u>Identity Data Services</u>"). This is an area of growing customer demand that will likely have a high impact on the market in coming months.

Implementing Provisioning: Not for the Faint of Heart

A provisioning deployment is a long-term project that impacts many components in the infrastructure, as well as potentially affecting existing business processes. In the *Identity and Privacy Strategies* MBP document "Preparation: The Cornerstone of a Successful Provisioning Deployment," Burton Group highlights a long list of deployment issues to consider as well as a list of high-level preparatory phases to help ensure a successful implementation. Without adequate preparation, an enterprise sets itself up for dissatisfaction with, or failure of, the provisioning project. In particular, enterprise customers remain dogged by poor-quality data, undocumented business processes, and the complexity of the implementation effort.

Setting expectations and goals also helps to properly frame project objectives and give project managers the ability to gauge progress. A thorough plan can also rein in scope creep, the scourge of any IdM project. But planning and preparation don't insulate project managers from changes in the enterprise. Because these projects can easily become multiyear efforts, changes such as business unit acquisitions or divestitures, new regulatory compliance requirements, or vendor volatility can hamper the deployment. Flexible persistence is a good quality for project managers to master so they can navigate the challenges that will occur during a provisioning deployment.

It is important to understand that provisioning deployments are approximately 20% technology implementation and 80% business process definition and engineering. During interviews with Burton Group, customers repeatedly expressed surprise about the amount of time it takes to obtain sponsorship, understand business processes, define roles and entitlements, and evangelize the product to the business. Organizations should plan for these processes in their project roadmaps.

Professional services may be a significant component of the provisioning deployment. Enterprises that don't have internal expertise, or that don't adequately fund the professional services component of the project, may end up with shelfware—a product that has been purchased but not implemented. It's not unusual for customers to pay three to four times as much on professional services as they do on product licensing. Some vendors, such as Avatier, Courion, Open IAM, Fischer International, Quest, and Sentillion, are attempting to take advantage of this phenomenon by emphasizing the lower cost of implementation for their products. Specifically, Sentillion charges a single price for licensing and implementing its product. iSM offers an "IdM implementation within 20 days" solution—based on a defined nucleus of functionality—that allows customers to profit from basic IdM in the short term while more-complex features may be added on gradually.

Market Impact

The provisioning market has been tumultuous over the years, but it has begun to stabilize. Today, most major-brand vendors have a provisioning offering, including BMC, CA, IBM, Microsoft, Novell, Oracle, SAP, Siemens, and Sun. Consequently, merger and acquisition activity has been somewhat subdued. This is a highly competitive market, however, and opportunities for consolidation still exist. Some vendors have exited the market altogether, most notably HP, while others have scoped and refined their market strategies. Some new entrants to the market have been surprising, including Hitachi, which acquired M-Tech in April 2008. Further merger and acquisition activity and market exits will ensue in the coming months, albeit not as much as in the past.

The severity of the current economic downturn and the state of the financial markets increase the likelihood of seismic shifts in the provisioning market. Such unusual conditions create externalities that are beyond the control of a given vendor and that are independent of product quality or strategy. Unfortunately, some moves (while best for markets in the long term) may cause significant problems for customers that have made, or are considering making, bets on a given vendor. Consequently, customers must be sure to think through possible market permutations and their consequences.

Identifying Market Segments

As the provisioning market has matured, clear lines of delineation have appeared. As the title of this Market Landscape document suggests, some vendors are striving to serve and gain momentum in the whole market, while others are focusing on areas of specialty in an effort to remain competitive.

Burton Group identifies four general categories of provisioning vendors as a means to represent some of the market positioning and dynamics (illustrated in Figure 3).

- The major brands have global name recognition and reach, thousands of customers, and operations in all regions of the world. They typically offer provisioning products that they either built or bought.
- The second tier of vendors includes both large vendors and smaller independent vendors that specialize in a vertical industry, have regional strength, or have developed a strong reputation in the provisioning market.
- The boutique category consists of a number of smaller players that serve smaller market segments, that have recently introduced products, or that don't yet have the brand recognition to appeal to a wide audience. The boutique category also includes vendors that rely on Microsoft Identity Lifecycle Manager (ILM) for connectors, account provisioning, or data synchronization.
- Finally, the Microsoft-specific category comprises vendors that focus on managing users in Microsoft environments and vendors that concentrate on Active Directory and Exchange administration.

Major brands	Regional or speciality	Boutique	Microsoft specific
BMC	Beta Systems	Avatier	Quest
CA	Courion	llex	
HP	Evidian	iSM	
IBM	Fischer Intl.	OpenIAM	
Microsoft	Sentillion	Omada	
Novell	Hitachi ID	Völcker	
Oracle			
SAP			
Siemens			
Sun			

Figure 3: Provisioning Market Segments

Go-to-Market Differentiators

As the provisioning market has become increasingly competitive, vendors have established go-to-market strategies that differentiate them from their competition. These strategies are intended to highlight the core value proposition that the vendor has to offer its customers. Ideally, this vision is directly tied to the vendor's corporate-level strategy and vision. The primary differentiators are:

- **Application centrism:** Oracle and SAP promote their application-centric solutions, offering deep integration into their business applications, including ERP, BPM, BI, and GRC solutions.
- IT service management: BMC, IBM, and CA offer an integrated service management solution tied to their helpdesk, asset management, incident management, change management, CMDB, and service request management systems. Courion and Voelcker do not have full-blown service management solutions, but they both do provide an integrated provisioning and asset management solution.
- SIEM integration: Novell, CA, and IBM all offer integration with SIEM and compliance solutions.

Suite vs. Niche

At a high level, provisioning vendors continue to segment themselves as "suite" vendors versus "niche" vendors. Niche vendors make claims of simplified deployments, cost savings, and personalized attention. Suite vendors promote their integrated IdM suite and its integration with other applications in their corporate portfolios. Suite vendors also differentiate themselves by claiming faster response times and vast partner networks. Additionally, suite vendors tend to capitalize on the existing relationship they have with the customer.

Burton Group has found that most customers do not buy a suite of products. Rather, customers buy from suite vendors mainly due to their concerns about the viability of smaller niche players. The promise of an integrated suite is not yet a reality in the IdM market, although progress is being made.

Regional Specialty

The provisioning market is fairly segmented by region. Vendors such as Beta Systems, Evidian, and Voelcker focus on the European market, with little or no presence in North America. Ilex and iSM are even further localized. Ilex is located in France, as are many of its customers. Similarly, iSM is located in Germany, where the majority of its customer base resides. Siemens has a strong European focus (approximately 65% of its customers are based in Europe); the company does have some reach into the North American market, however. Major-brand vendors also have a European presence. For some, such as BMC, CA, Novell, and Sun, the European market comprises up to 40% of their customer base. SAP and Oracle have reach around the world; however, SAP has stronger brand recognition in Europe, whereas Oracle has stronger brand recognition in North America.

Asia, Central America, and South America are still growing markets. Combined, these markets account for approximately 10% of the typical vendor's customer base. Asia is receiving growing attention because of Japan's Financial Instruments and Exchange Law (nicknamed J-SOX) and other regulatory requirements.

Vertical Industry Specialty

Most vendors offer general-purpose solutions that can be utilized in any vertical industry. However, a select few vendors specialize in certain verticals. This is particularly true of Sentillion, which is almost wholly focused on the healthcare market. However, vendors such as Courion, Novell, and Siemens are also very competitive in the healthcare market. These vendors offer an array of connectors to healthcare-specific applications and have built specific provisioning packages around the healthcare industry.

With its strong heritage in financial services, Beta Systems has done well in this market. Similarly, Evidian has a strong background in the services industry and has expertise in healthcare, telecom, and financial services markets. Siemens has a large customer base in the public sector.

Undoubtedly, provisioning has been most successful in the financial services sector. As this provisioning market continues to grow, interest from other verticals increases, including government, education, and manufacturing.

Systems Integrators' Influence on the Market

Building a provisioning product is only part of the solution—most implementation projects require some level of support from systems integrators. Systems integrators (SIs), such as PricewaterhouseCoopers, Deloitte & Touche, Accenture, Wipro, Atos Origin, and KPMG International, have large operations that can bring business to provisioning vendors, both for domestic/regional markets and for success in global markets. The major systems integrators tend to invest in training and reselling, with a very small number of partners (perhaps three or four) to generate pull for the partners' products and make an easier sell for the systems integrators.

Smaller system integrators have had a discernible impact on the provisioning market as well. Integrators such as Iditarod (recently acquired by Deloitte & Touche), LogicTrends, Mycroft, and several others have become known for their in-depth IdM expertise.

Although many SIs have trained provisioning professionals, organizations may still have difficultly securing a qualified consultant. Having a consultant with expertise and previous experience in deploying a provisioning solution is a key to success. A consultant can make or break a project. Burton Group recommends that an organization conduct a POC with not only the provisioning product, but also with its implementation partner. It should also consider requiring fixed price engagements.

The Microsoft Effect

Microsoft has been, for the most part, a peripheral player in the provisioning market with its meta-directory product, MIIS. However, with the release of ILM 2007, Microsoft added additional provisioning services, including smart card management, certificate management, and user account management features. The release of ILM "2" is pending. In that release, Microsoft will deliver several enhancements, including a comprehensive workflow system and improved self-service, administration, policy management, and auditing capabilities. ILM "2" will also be integrated with Microsoft Office, giving users a familiar environment for self-service functions.

MIIS offers a strong, market-leading meta-directory. However, Microsoft lags behind its provisioning competitors. Although Microsoft does not yet have a robust provisioning solution, the promise of one has already affected the market. Organizations that have been using provisioning solutions from vendors such as Omada, Voelcker, and Quest to complement their MIIS meta-directory are left wondering how ILM "2" will affect the technology partnerships between Microsoft and these vendors. However, Microsoft claims that it is maintaining its partnerships with and commitment to these vendors (and vice versa).

Further complicating matters for organizations is the financial impact of ILM "2." Some organizations running MIIS alongside a third-party provisioning solution would prefer to invest in a single product, such as ILM, that includes both provisioning and meta-directory features. The introduction of ILM could mean cost and resource savings for these organizations. However, the future remains uncertain. Microsoft has all but announced the inclusion of advanced provisioning features, such as workflow, delegated administration, and self-services. ILM "2" has not yet been released, and the true impact of ILM will not be known until ILM "2" has been proven in the market.

Advancements in other Microsoft technologies have also impacted the provisioning market, although a bit less directly. One such example is the 2007 release of Microsoft SharePoint. Organizations are struggling to assign and manage SharePoint access and security rights. This will become an area of increased development and integration efforts for IdM vendors in the coming months.

Competitive Analysis

Although the market has experienced some consolidation, over 20 vendors remain. Burton Group recently conducted a competitive analysis of the market. This competitive analysis was primarily based on input from customers regarding their experiences with the various vendors and their respective products. Burton Group also asked vendors to participate in an exhaustive product evaluation process. The Market Insight diagram depicted in Figure 4 represents our findings.

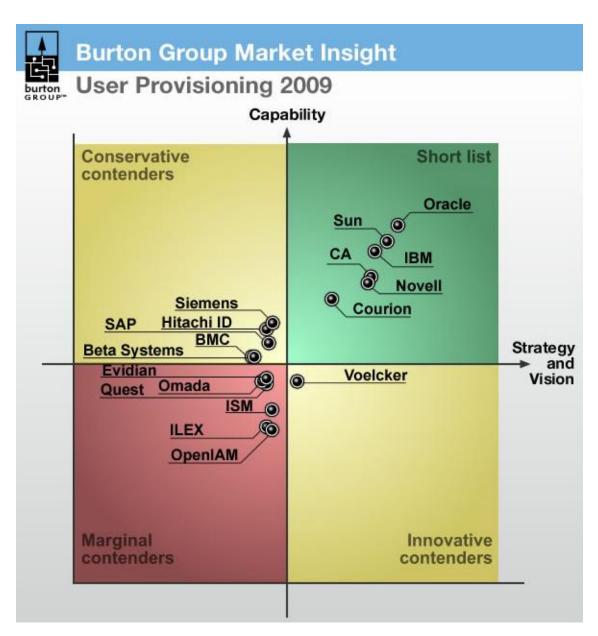


Figure 4: 2009 User Provisioning Market Insight Diagram

The Market Insight diagram is not a product or vendor recommendation. Rather, the diagram provides a holistic view of the market, evaluating vendors and their products using a comprehensive, but generalized, criteria set that balances many factors. To gain the most effective use of the Market Insight diagram, clients should schedule a dialogue with an analyst to discuss their organization's specific requirements. In the course of a dialogue, a Burton Group analyst can identify the vendors whose strengths are best aligned with a client's requirements.

Inclusion Criteria

Burton Group's primary goal in conducting this competitive analysis was to conduct the most comprehensive evaluation possible given practical constraints. We selected vendors for inclusion based on a variety of criteria, as follows:

- Vendors that our enterprise clients ask us about: During our interactions (as both analysts and consultants), clients consistently ask us about a common set of vendors. Given that one of our primary jobs is to answer our clients' questions, we strove to include those vendors.
- Vendors whose strategies and products match the working definition of the provisioning market that we've outlined here. To be included, a vendor's products must directly address the compliance, operational efficiency, and cost reduction requirements exhibited in the market. A vendor must provide products that support not only user account provisioning in a heterogeneous environment, but also workflow, self-service, delegated administration, role-based provisioning, audit and reporting, and password management features.
- Open source products and projects are an important component of the market ecosystem, often making significant contributions. clients focus on vendors, not just products. Consequently, we have focused our analysis on vendors and products, not just products and technologies. We make every effort to include open source products and projects as part of our assessments, but they must meet some basic inclusion criteria, and they must have organizations behind them that can both provide sales and services capabilities behind the product and meet the basic requirements we put forth in our process.
- The provisioning product must have been shipping and publicly available for a minimum of 12 months prior to August 25, 2008.
- The provisioning product must be manufactured/developed in-house. Products delivered through an OEM, reseller agreement, or service model were not considered.
- The vendor was also required to provide Burton Group with reference customers.

For this assessment of the user provisioning market, Burton Group invited the following 22 vendors to participate: Avatier, Beta Systems, BMC, CA, Courion, Evidian, Fischer International, Hitachi ID, IBM, Ilex, iSM, Microsoft, Novell, Omada, OpenIAM, Oracle, Quest, SAP, Sentillion, Siemens, Sun, and Voelcker.

Of this group, the following four vendors declined to participate in the process: Avatier, Fischer International, Microsoft, and Sentillion. Microsoft declined to participate due to the timing of the evaluation and the pending release of ILM "2." The other three vendors declined to participate due to a lack of resources available to assist in the product evaluation process given our timeframe.

Evaluation Criteria

As the axes in the Market Insight diagram show, we divided our criteria for evaluating vendors into two basic categories: capability (the *y* axis) and strategy and vision (the *x* axis).

We used five key factors to assess a vendor's capability:

- · Product quality, breadth, and depth
- Vendor viability
- Market leadership
- Sales, technical support, in-house deployment services, and partner ecosystem
- · Customer satisfaction

We used three primary factors to judge a vendor's vision and strategy:

- · Alignment of the vendor's vision and strategy to market demands and customer requirements
- · Alignment of the vendor's vision and strategy to its internal corporate-level goals and strategies
- Product execution of vision and strategy (they can talk the talk, but can they walk the walk?)

For a detailed description of the diagram and the evaluation criteria, see the <u>Market Insight Evaluation Criteria</u> and <u>Methodology</u> section of this document.

The Categories

As the Market Insight diagram in Figure 4 illustrates, we've put the vendors we've evaluated into one of four categories. We define those categories as follows:

The Short List

The Short List consists of market leaders that provide a strong balance of capability and strategy and vision. These vendors have strong product capabilities, including a solid provisioning architecture, integrated workflow, deep target system support, and advanced identity audit features, as well as business-friendly self-service and delegated administration interfaces. These vendors also excel in their capability to deliver the product to the market. Vendors on the Short List typically have an effective global sales force, in-house professional services expertise, and a solid market infrastructure of partners that offer system integration and other support services keyed to the vendor's products on a global basis.

The vendors on the Short List are also setting the direction of the overall market, innovating and extending products in areas such as role management, access certification, finer-grained entitlement provisioning, standards support, and identity services. In many cases, vendors in this category are also integrating their provisioning products with an identity management suite and other applications within their application portfolios. Consequently, we often find these vendors on the short lists customers create in their initial evaluation. This does not mean, however, that our clients should default to these vendors automatically. Because we've used general requirements balanced across a number of use cases, different priorities and weighting would drive significant change in how the diagram looks.

Conservative Contenders

Conservative Contenders have significant product and delivery capability strengths but are not leading the market in product strategy and vision. Typically, these vendors are profitable, with demonstrable means of delivering solutions and supporting customers. Conservative Contenders may be large companies, with deep, often strategic relationships that customers can leverage when it comes to implementation, customization, and support.

Thus, vendors in the Conservative Contender category have significant value to offer, but rate low enough on vision and strategy to warrant some caution. Conservative Contenders may well be worth consideration if global support, delivery, and other capabilities are more important than leading-edge functionality and features.

Innovative Contenders

Innovative Contenders have significant strengths in terms of vision and product strategy, but they lack global delivery, support, and market infrastructure capabilities. Typically, Innovative Contenders are the companies that blaze the technology trail, defining product feature sets and new markets. Innovative Contenders have significant value to offer, but rate low enough on capabilities to warrant some caution. These vendors may be well worth consideration if a customer's needs are such that it requires leading-edge functionality.

Marginal Contenders

The Marginal Contender category reflects the duality of market segments and the limitations of a two-dimensional graphic. While it clearly has advantages in terms of clear communication, a two-dimensional graphic inevitably throws both successful smaller, niche vendors and market laggards into the same bucket. Consequently, we first identify vendors in this category as Marginal Contenders and then qualify that definition by indicating whether a vendor is a niche vendor or a market laggard.

Typically, niche vendors focus on a subset of the market, such as a vertical industry or a limited geography. Niche vendors may also specialize in a specific technology or application. Such vendors can be and often are successful precisely because of their focus and specialized expertise. But because they lack characteristics such as a global market infrastructure or a complete suite of product features, such vendors will also rate lower than larger vendors with more complete offerings. This does not mean, however, that these vendors are not worth consideration.

Conversely, some vendors simply trail the market, be they small or large. They may have suffered market setbacks, such as declining revenue, or may be in the midst of a significant restructuring of the relevant business units. They may be smaller vendors that are late entrants or that have not established mindshare or market share. And some market laggards may simply be out of alignment with the markets and with customer needs. Such vendors will rate poorly enough in the capability and the strategy and vision categories to raise red flags in terms of viability and their ability to meet customer needs.

When we place a vendor in the Marginal Contender category, we indicate whether they are a niche player, which signals our generally positive view of a vendor that has limited capabilities, or a laggard, which indicates our concerns about a vendor's current ability to meet customer needs in any context.

Burton Group Assessment

As the Market Insight diagram suggests, the major-brand vendors—specifically, Oracle, Sun, and IBM—are clearly dominating this market. Each of these vendors offers an extended suite of IdM products, including provisioning, role management, access management, federation, entitlement management, and other features.

One or more of these vendors consistently appear on customers' provisioning vendor selection short lists. While IBM and Sun have both lost market share to Oracle, they remain competitive. CA and Novell also have a strong presence. These two vendors have been particularly successful within their existing customer bases and in European markets. Courion continues to hold its own as a pure-play vendor.

Oracle

Oracle is currently leading the provisioning market, largely due to its aggressive acquisition strategy and its willingness to follow its IdM acquisitions with strong execution. We currently put Oracle on the Short List.

Upside potential:

- Oracle's heavy investment in IdM technologies broadens the depth of its suite.
- Its strong strategic alignment is a plus; Oracle's IdM plans are deeply rooted in the company's overall plans and ambitions.
- It has a strong IdM management team, as well as significant partner and market infrastructure.
- It pursues aggressive sales and marketing campaigns.
- It offers a clear, concise, and visionary message to the market.

Downside risk:

- Because it is fairly new to the market, many of its customers are in the early deployment phases.
- The company must ensure that it has the resources to maintain customer satisfaction, or it will experience the same growing pains as CA, IBM, and Sun.
- It faces substantial integration issues across the many products it has acquired and built, including IdM.

Sun

Sun's products are generally strong; for example, Sun is gaining momentum with its integrated role management strategy. We currently put Sun on the Short List.

Upside potential:

- Sun has maintained strong thought leadership in the provisioning market and has an established customer base.
- Sun Identity Manager 8.0 showcases the company's integrated role management, compliance, and provisioning solutions.
- Sun is committed to the open source community and is planning to open source its provisioning connectors.

Downside risk:

- Sun must continue to make investments in marketing and product development to keep pace with Oracle.
- The financial downturn has put severe pressure on the company; layoffs and leadership defections may put its competitive stance at risk.
- Its lack of a SIEM system puts Sun at a competitive disadvantage and will make partnerships with ArcSight
 and LogLogic increasingly important as the market demands tighter integration with compliance and SIEM
 systems.

IBM

The release of IBM Tivoli Identity Manager (TIM) v5.0 has given IBM a boost in the market by improving usability and performance. We currently put IBM on the Short List.

Upside potential:

Improvements to the latest release of TIM demonstrate IBM's commitment to customer success.

- It offers a strong, overarching suite of IdM products.
- IBM delivers strong mainframe support with versions of TIM for z/OS and for Linux on System z, as well complementing functionality from the IBM zSecure suite.
- TIM is aligned with IBM's outsourcing and services strategies.

Downside risk:

- Its past history of failed deployments has hurt IBM's reputation, and its weak marketing hasn't effectively combated this perception.
- IBM lacks a role management capability, which has become an integral component of IdM suites and provisioning offerings.
- IBM must further execute on its SIEM and service management integration strategies; customers have suggested that the integration between these solutions is not as robust as it should be.

CA

CA has recently released CA Identity Manager r12, which offers improved interfaces and a deeper integration of the products it acquired from Netegrity.

CA recently acquired Eurekify for role management and identity compliance capabilities that are highly complementary to its provisioning offering. We currently put CA on the Short List.

Upside potential:

- CA is successfully executing on an aggressive IdM strategy.
- It has been particularly successful in upselling CA Identity Manager to its CA SiteMinder Web Access Manager customers.
- It has made strategic acquisitions—namely, its recent acquisition of Eurekify and IDFocus—and is showing a continued willingness to invest in the provisioning market.

Downside risk:

- CA must improve its in-house technical support and professional services; customers have identified this as a pain point.
- CA nust better execute its SIEM and service management integration strategies.
- Some integration issues remain with the technologies acquired from Netegrity. CA must resolve these issues and quickly integrate the new technologies it has recently acquired.

Novell

Novell has made significant progress by investing in its partner ecosystem and improving its sales and marketing strategies. The company is also building a comprehensive compliance strategy, highlighting the integration between its provisioning and SIEM products, as well as its OEM relationship with Aveksa. We currently put Novell on the Short List.

Upside potential:

- Identity Manager 3 is highly successful within Novell's traditional eDirectory customer base.
- Novell offers a rational strategy and roadmap that are aligned with market needs.
- It offers strong support for bi-directional and real-time provisioning as compared to the competition.

Downside risk:

- Novell must continue to expand its reach into new, non-Novell customers.
- To remain competitive, Novell must further develop its partnerships with technology vendors and system integrators.
- Although it has improved from years past, Novell must continue to improve its identity and security marketing
 message, with particular emphasis on marketing strategies that highlight internal alignment of products.

Courion

Courion is an innovative and effective player in the provisioning market, playing David to several Goliaths. We currently put Courion on the Short List.

Upside potential:

- Courion is ahead of the market with its release of role management, access certification, and asset management capabilities.
- Courion is capitalizing on its partnership with EMC, which has given it some traction.
- It has a strong roadmap which, if executed on, will help sustain Courion as a leader in the provisioning market.

Downside risk:

- Major-brand vendors are challenging Courion's position in the market.
- Courion lacks a large, global presence.
- It must continue to expand its partner ecosystem in order to compete with major-brand vendors that have an expansive sales force and a global presence.

Siemens

Siemens has long enjoyed a presence in the IdM and provisioning markets. It offers a comprehensive provisioning product and IdM suite. The company has been characterized by steady, if sometimes unexciting, product development. We currently classify Siemens as a Conservative Contender.

Upside potential:

- Siemens is an early mover in role-based provisioning, and its current products are based on that foundation.
- The company's recent reorganization put IdM products in the Siemens IT Solutions and Services group, which should allow Siemens to pursue the right customers in the right markets.
- Siemens is strong in the European market.

Downside risk:

- Until recently, IdM offerings were buried in the company's healthcare sector; this improper alignment of Siemens's IdM strategy within the organization caused market setbacks in both perception and execution.
- Siemens must expand its support for role lifecycle management, role mining, and audit capabilities or partner with a vendor that offers these features.
- It must build a strong go-to-market strategy and expand its partner ecosystem to reach North American markets and further seed the European market.

Hitachi ID

An unlikely entrant to the IdM market, Hitachi acquired M-Tech in April 2008, renaming it "Hitachi ID." We currently classify Hitachi ID as a Conservative Contender.

Upside potential:

- Strong history of effective password management, moving into provisioning
- Hitachi ID continues to run as a wholly owned subsidiary organization, which means that it benefits from the backing of a much larger company, while being left to run its business as it sees fit.
- The upcoming release of its provisioning product includes an improved architecture and added functionality.

Downside risk:

- The parent company has not made a significant push in the provisioning market, which leaves to compete as a niche vendor.
- has all the baggage that comes with being owned by a much larger company without the benefits that a larger company with strong strategic alignment can bring (such as global sales and support).
- Confusion remains over the vendor's long-term strategy and how the company's IdM strategy aligns with 's corporate strategy; this may be clarified in the coming months, as launches a revamped version of its product with an improved architecture and enhanced support for access certification.

SAP

SAP entered the provisioning market with its acquisition of MaXware in 2007. Since then, the company has been building its IdM strategy and integrating the product into the SAP NetWeaver platform. We currently classify SAP as a Conservative Contender.

Upside potential:

- SAP has a strong brand, a global presence, and a position at the core of how many enterprises run their day-today business.
- SAP is focused on its existing customer base, which is loyal; customers are adding SAP to their provisioning product selection short lists simply because it's SAP.
- The company can gain considerable traction in the next 12 to 18 months if it executes on its vision.

Downside risk:

- It lags the market in some key features.
- Because it is focused on its existing customer base, it has yet to build a strong presence in the provisioning market.
- It must execute on its product vision.

BMC

BMC's provisioning products are tightly integrated with its business service management (BSM) strategy, so its go-to-market strategy are different than other major-brand vendors. We currently classify BMC as a Conservative Contender.

Upside potential:

- BMC offers stand-alone IdM products and continues to improve them.
- Its provisioning product provides a strong integration with BMC's CMDB and the BMC Remedy Action Request System.
- Integration with BMC's service management offering gives BMC's provisioning product some unique capabilities in the areas of self-service, help desk, change management, and asset management.
- BMC continues to offer its provisioning product as a standalone offering.

Downside risk:

- The richness of BMC's provisioning product is best realized when it is integrated with BMC Remedy Action Request System and BMC Remedy IT Service Management. As a stand-alone product, some areas need improvement.
- BMC's shift in direction and internal restructuring has raised market perception of viability concerns.
- Customers have expressed frustration with BMC's technical support and customer support services.
- The company must effectively communicate a clear vision and improve its support and services offerings.

Beta Systems

Beta Systems is a long-standing vendor in the provisioning market; we currently classify Beta Systems as a Conservative Contender.

Upside potential:

- Beta Systems offers strong mainframe support.
- It has expertise in the financial services market sector.
- It has a good customer base in Europe.

Downside risk:

- Beta Systems has been unable to penetrate the North American market to date.
- It is missing audit and access certification features in its current product offering.
- It must respond to market dynamics more quickly and expand its reach in global markets.

Voelcker Informatik

Voelcker Informatik offers several unique features in its provisioning suite. It is gaining some traction from its recent announcement of its partnership with Microsoft. We currently classify Voelcker as a niche vendor in the Marginal Contender category.

Upside potential:

- Voelcker offers advanced support for roles.
- Voelcker's IT service delivery component provides asset management, software license management, and chargeback capabilities.
- Its product offers sophisticated user interfaces with an access request shopping cart.
- Voelcker announced that it will integrate with Microsoft ILM in its upcoming release of ActiveEntry, concentrating future efforts on high-level provisioning processes such as workflow, role management, and IT compliance.

Downside risk:

- ILM integration, given Microsoft's roadmap and intent to compete in the provisioning market.
- Voelcker must ensure that it remains viable as an independent vendor and not wholly reliant on ILM.

Omada

Omada offers a provisioning solution that front-ends Microsoft ILM and includes self-service, delegated administration, workflow, and role management capabilities. We currently classify Omada as a niche vendor in the Marginal Contender category.

Upside potential:

- Omada uses Microsoft ILM for target system connectors and user account provisioning.
- Omada's strategic partnership with Microsoft has gained considerable traction in the market.
- The company has strong in-house deployment and consulting expertise.

Downside risk:

- Microsoft's plans build out its own provisioning capabilities with ILM2.
- Customers have expressed concerns that the Microsoft and Omada relationship is moving from a cooperative to a competitive one.
- Omada must expand its support for other provisioning systems and further capitalize on its strong role management and its in-house deployment and consulting expertise.

Bull Evidian

Based in France, Bull Evidian has been a provisioning market contender in Europe for some time. We currently classify Bull Evidian as a niche vendor in the Marginal Contender category.

Upside potential:

- Bull Evidian offers impressive integration with its enterprise single sign-on (e-SSO) and access management offerings.
- It has expertise in the financial, telecommunications, and service markets.
- It enjoys a solid European presence.

Downside risk:

- Bull Evidian's user account provisioning, reconciliation, and synchronization strengths are realized only when customers deploy the provisioning product as an integrated suite with Evidian Role Management and Evidian Access Management, which provide the system's policy management, reconciliation, and advanced password management capabilities.
- The company is struggling to capture market share in North America.
- Its limited partner ecosystem restricts its ability to reach new markets.

Quest

Quest is best known for its Microsoft Windows and Active Directory management tools. We currently classify Quest as a niche vendor in the Marginal Contender category.

Upside potential:

• Quest provides deep AD group and file management.

- It offers simplified provisioning deployments and an attractive solution for small to medium-sized organizations or for large organizations that utilize AD for authentication services.
- Product has the ability to receive events from HR Systems, Microsoft ILM, and other provisioning systems (such as IBM TIM) and provision to Windows, Active Directory, Exchange and other non-Microsoft databases and directories.
- Authentication services allow users provisioned to AD to log in to UNIX, Linux, and Mac environments.

Downside risk:

- Quest's tools lack key capabilities that are found in other provisioning solutions on the market.
- Its products are not designed for organizations needing strong user account provisioning, data synchronization, or meta-directory capabilities.

llex

Ilex, a small IdM vendor based in France, is a relatively new entrant to the provisioning market. We currently classify Ilex as a market laggard in the Marginal Contender category.

Upside potential:

- Ilex provides a workflow component, as well as rich self-service and delegated administration interfaces.
- Its product works with the Meibo platform access management and authentication features.
- Its product offers SPML support and the ability to run stand-alone or as a front end to other provisioning and meta-directory applications.
- It offers a middleware approach to provisioning and the abstraction layer.

Downside risk:

- Ilex's product may not be suitable for organizations needing advanced target system connectors and sophisticated audit and reporting features.
- Ilex is focused on the French market, but is trying to extend into new markets through OEM and system integration partnerships.
- As a late entry in this competitive market, the company faces an uphill battle.

Institute for Systems Management (iSM)

iSM is a small provisioning vendor that has yet to establish traction in the market. We currently classify iSM as a market laggard in the Marginal Contender category.

Upside potential:

- iSM's forward-thinking architecture and SOA-based approach to provisioning offer several services, including provisioning, role management, web-based user self-service, and role-based USB port protection.
- iSM provides integration with its role management offering.
- It offers innovative functionality, such as license tracking, tracking of employee time off, and process-based provisioning.

Downside risk:

- iSM's small customer base is concentrated in Europe (primarily Germany and Austria).
- The company is competing against major-brand vendors and well-established smaller vendors, such as Beta Systems and Voelcker Informatik, in the highly competitive German market.
- Because its sales force and partnerships are limited, iSM must establish further relationships with system integrators and technology partners in order to gain momentum.

• As a late entry in this competitive market, it faces an uphill battle.

OpenIAM

OpenIAM, formerly Diamelle Technologies, offers an open-sourced provisioning solution. We currently classify OpenIAM as a market laggard in the Marginal Contender category.

Upside potential:

- OpenIAM offers a forward-thinking architecture and an SOA-based approach, utilizing web services, SPML, and BPEL to enable provisioning services.
- Its product is available in community and enterprise versions.
- Its open source approach may appeal to enterprises that have adopted open source and have the ability to customize the code.

Downside risk:

- Its product is lacking some key features.
- Its product is best suited for small- to medium-sized organizations needing basic provisioning functions.
- Its lack of sales, support, partnerships, and a global ecosystem leaves enterprises with a largely self-service solution.

See the *Identity and Privacy Strategies* Provisioning Product Profile documents for further information on provisioning vendors.

Recommendations

As with any major system implementation, deploying a provisioning solution requires well-articulated, shared objectives and planning among all stakeholders and a solid architecture and framework for integration with other platforms and resources. In large organizations with many managed platforms, the deployment should be incremental. It must demonstrate success early—and effectively address issues and roadblocks—with clear milestones and proof points. Security and administration functions of the typical enterprise IT organization usually share responsibility and ownership of provisioning deployments. And for internal integration efforts, human resources (HR) organizations are generally important participants. Additional valuable information on project planning can be found in the *Identity and Privacy Strategies* MBP document "Preparation: The Cornerstone of a Successful Provisioning Deployment."

Making Product Choices

Evaluating and selecting a provisioning product can be a complex and confusing experience. Where to start and how this phase of the project should be carried out will be different for every enterprise because of varying requirements, infrastructure, personal preferences, principles, and other factors. Some of the key areas to consider are addressed below:

• Create a short list of vendors: With more than 20 vendors in this market, enterprises must reduce the number to a manageable figure. Typically, this means that two to four vendors will make the final list and possibly be invited to perform a POC. To narrow down the list, enterprises can consider their vendor principle position (see "Burton Group's Reference Architecture Principles"), which indicates the enterprise's comfort level in dealing with startup versus established vendors. If the enterprise has a preferred or established vendor, then it should be on the short list for consideration.

- Suite vendor or specialist: Most provisioning vendors have developed a suite or portfolio of IdM applications over the last few years, so it's harder to find a specialist that focuses just on provisioning. Purchasing a number of IdM capabilities from a single vendor is compelling, but the promise of integrated, seamless IdM suites is still short of reality. Many enterprises, however, may be willing to count on a key major-brand vendor for the long run and deal with some of the inconsistencies as the product suite evolves over time. Others may still be more focused on best-of-breed technology for each IdM function and willing to undertake the integration effort. Building a consensus on how to address this question significantly helps to sort out the potential vendor list.
- Regional preferences: All the major-brand vendors have international sales, development, and support organizations, although the quality across regions may be inconsistent. Similarly, the large SIs, such as PricewaterhouseCoopers, Deloitte & Touche, Accenture, and KPMG, operate in all regions. Enterprises must be comfortable with all aspects of the vendor and professional services relationship in order to make a significant investment in a provisioning solution. However, size and location can be an issue when dealing with smaller players. For example, North American enterprises may be reluctant to deal with vendors that are based in Europe and have limited presence locally. Conversely, European enterprises may prefer the responsiveness and attention of a locally established vendor and SI. Almost every vendor wants to be—or thinks it can be—a global provider, but the realities of resource limitations for smaller vendors should be a concern for prospective customers
- Generalist or vertical industry specialist: Most products on the market are general-purpose in design. That is, they can be customized and implemented in any industry. But a few vendors have developed specialized expertise in certain markets. For example, Sentillion, Courion, and Siemens all have expertise in the healthcare market. Vendors such as Evidian, Beta Systems, Siemens, and Voelcker have expertise in European markets.
- **Technical considerations:** Some of the technical aspects to review include the vendor's support for key target resources, whether it uses a centralized, distributed, or virtual repository model, its support for request- or event-driven processing, and its auditing and reporting capabilities.
- Ease of implementation: Purchasing a software license represents just a portion of the provisioning investment. Enterprises must also account for implementation and ongoing maintenance costs. Availability of in-house expertise, speed of deployment, and product complexity and functionality all contribute to the cost of implementation. Enterprises should examine implementation options during product evaluation to ensure that the total cost of the solution is within reason and expectations.
- Conduct a POC: Some enterprises perform only a paper-based evaluation by comparing features and scoring the capability of each product, but Burton Group recommends conducting a POC with the two to four vendors that make the enterprise's short list. In some cases, time and resources are severely limited, and the enterprise may pare the market down to a single selection. However, even in these cases, a POC should be conducted to test how well the product performs in action, not just on paper. A POC can reveal a lot to the enterprise, including whether the product performs as the vendor promised, ease of operation, deployment considerations, and so on. It's better to spend a little extra time and money up front than to suffer through an unsatisfactory experience over the long run.
- Seek out reference accounts: Peer organizations that have implemented a provisioning product an enterprise is considering can provide invaluable information for the evaluation process. Enterprises should press vendors to provide references from customers that are of similar size and complexity, are located in the same region, and operate in the same or a similar industry. In some cases, this request is difficult for a vendor to accommodate—but knowing about this difficulty is also valuable information for the prospective customer. Reference accounts may also be discovered by reading trade press articles or attending industry conferences, seminars, or events.
- Solicit help from experts, integrators, and partners: Provisioning deployments are complex, regardless of the technology selected. It is best to solicit experts who have had practical experience deploying a provisioning solution. Experts should be involved in all phases of the project, including business process gathering, POC, implementation, rollout, and maintenance. Experts can include internal employees or external resources. Experienced provisioning resources are in high demand. Therefore, organizations should plan for a high turnover rate and document all project decisions and processes.

The Details

This section details common components found in provisioning products and highlights vendor-specific provisioning offerings.

Provisioning System Components

The sections that follow explain some of the major components in a provisioning system, which are illustrated in Figure 1.

The Provisioning Server

At the heart of every product is the provisioning server, where workflow, rules processing, reporting, and policy management occur. The provisioning server can also represent the central architecture of the product, coordinating interfaces to the other main components. The Fischer Identity Suite and Novell's offerings are good examples of a unified architecture at the core of provisioning products. The central architecture model is more typical of products that have been developed or grown organically within a vendor's offerings, as opposed to products from vendors with a number of acquisitions that are still being integrated.

Interfaces

Interfaces are required for systems administration functions to create and manage the provisioning environment. A separate set of interfaces is presented to users for self-service functions or to business line managers for delegated administration tasks.

Systems administrators require powerful but easy-to-use tools to establish connection with authoritative identity sources, create workflows, set audit controls, establish security, author automation rules, and integrate with target resources.

Delegated administration is an important capability for enterprises that prefer to distribute the user management workload directly to business units. A provisioning product must be able to easily define forms, set security controls, and present the proper functions to each delegated administrator. Products from Voelcker Informatik and others permit the creation of these interfaces by specifying attributes to be used in the form, and then the product dynamically creates the interface without additional coding or customization. Beta Systems Software follows a similar model in which administrators define fields and layout in simple Extensible Markup Language (XML) format, and SAM Jupiter generates the forms and business logic without further coding. IBM allows administrators to customize the user interface for delegated users by using template customization via check boxes, where no coding is required.

Self-service further enables the distribution of the user administration workload, particularly for self-service password resets. Many enterprises also prefer to enable users to request access to resources through the self-service interface. Avatier and Courion, which have long been focused on the self-service model, have easy-to-use interfaces for this purpose. Hitachi ID Systems offers the ID-Access module so users can surf local networks for available resources that they can request access to.

Workflow and Event Processing

Workflow tasks and event-processing rules coordinate and orchestrate the provisioning process for new workforce members, status changes, and deprovisioning. The *Identity and Privacy Strategies* overview "<u>Identity Lifecycle and Workflow: Building an Identity Program</u>" lists a number of important workflow capabilities that may be required by enterprises. Some organizations prefer to limit the number of workflow tasks defined and rely more on behind-the-scenes automation rules to control provisioning processing.

Agents and Connectors

Provisioning agents, or connectors, provide the crucial link between the provisioning server and the managed system or application. Some agents support advanced bidirectional functions and are capable of relaying changes made at the target resources back to the provisioning server.

All provisioning agents support basic account management functions. But for sophisticated functions such as group or access rights manipulation on the target resource, agent functionality varies widely across products. IBM and Novell are notable for the sophistication of their agents. Beta Systems has powerful capabilities not only to control accounts and access rights, but also to monitor access control lists (ACLs) on the resources under the control of provisioning systems. Novell utilizes bidirectional connector capabilities to manipulate multiple identity sources. Fischer International enables custom connectors to be created quickly because most code is shared as common components, and only connectivity-specific attributes need to be created to accommodate custom applications. Vendors such as Oracle, CA, Siemens, and Sun Microsystems have strong connector development toolkits that allow organizations to build custom connectors.

Agent Types

The difference between the two main types of agents, remote and local, used to be a competitive issue among provisioning vendors. Now, nearly every provisioning product supports both of these types of agents, and customer preferences and requirements determine where agents are installed. A third type of agent, based on Service Provisioning Markup Language (SPML), should become more common over time as vendors and application providers adopt the standard.

On one hand, local agents are more complex and intrusive than remote agents because IT managers may have to install and manage them across target resources. Thus, local agents are potentially more difficult to implement and more prone to upgrade issues associated with version changes in the end system unless a software distribution mechanism is in place. If it affects the application programming interfaces (APIs) and subsystems with which the agent works, for example, an upgrade to the end system can break the provisioning chain and force an upgrade to the agent. And if the provisioning vendor isn't prompt in upgrading the agent software, discontinuities become an ongoing problem.

On the other hand, local agents usually provide a better foundation for a distributed architecture. With software installed on target resources, for example, provisioning systems can optimize bandwidth for communications with the provisioning server, detect password changes on the local system, synchronize passwords with the provisioning server, and monitor or provide alerts to specific system activities. In short, local agents can provide bidirectional communications on a real-time or near-real-time basis.

Remote agents (which vendors sometimes describe as "agentless connectors") are simpler to implement, less susceptible to version changes, and less intrusive. Remote agents centralize administrative and monitoring functionality at the provisioning server or a gateway server, thus simplifying the architecture. In some implementations, the functionality of remote agents is restricted to unidirectional or push communications with end systems, which may make them less capable of monitoring changes and events on end systems on a real-time basis. For example, remote agents are typically unable to provide bidirectional password synchronization.

Repositories for Provisioning Services

Provisioning systems use directory and database repositories to store identity data, configuration information, policy settings, audit records, and other data. Provisioning products install and utilize repositories in a variety of ways. Avatier, Courion, and Fischer International, for example, can use an existing directory or database to store provisioning information, rather than requiring the installation of a dedicated repository. Many vendors now support a virtual-directory-like layer where only metadata about user identities is stored on the provisioning server, and data is retrieved from authoritative systems during processing. Sun Identity Manager made this approach popular, but it is also supported by BMC Software, Courion, Evidian, and Fischer International.

Other products may require the storage of user attributes in the central repository. This approach requires that data synchronization or reconciliation is in place to keep the central copy up to date. Having all user information in one location allows vendors to speed up processing, analyze data for separation of duties (SoD) restrictions, and easily report on the gathered data. Vendors that use the centralized repository approach still have the ability to request some attributes during runtime processing, but most attributes are retained in the central system. Centralized repository vendors include Beta Systems, BMC, CA, IBM, Microsoft, Novell, Oracle, SAP, Siemens AG, and Voelcker Informatik.

Authoritative Identity Sources

Data from source systems triggers automated activity in the provisioning system. In most cases, the authoritative source is one or more human resources (HR) systems that hold information on most workforce members.

Source systems are connected to the provisioning server by a number of methods, including flat file transfers, one-way connections, and bidirectional connections. It's still common for the HR system to create a flat file of user changes and their associated attributes for processing by the provisioning server. Although it is effective, this batch method does not provide real-time, or near-real-time, updates to user access.

Most provisioning servers provide a connector or listener that can be installed on the HR system to capture user status changes and forward them immediately to the provisioning server. Popular HR systems like SAP and PeopleSoft are supported in this manner. Some enterprises enable bidirectional connectivity with the HR system in order to update HR system attributes that may change in other authoritative systems or to manage access to the HR application itself.

Password Management

All provisioning vendors provide password management through one of two approaches: password reset or password synchronization. Many provide both capabilities. Most provisioning vendors provide self-service password reset—but not automatic password synchronization—for all systems. However, a majority of vendors can now capture password changes on Windows domain controllers and synchronize passwords with other systems.

Vendors such as Avatier, Courion, and Hitachi ID offer full-featured password management products and more self-service channels than most other vendors. Enterprises may need other user interfaces to drive usage of a self-service password reset solution. For example, users who are locked out of the network and unable to access a web browser will be unable to access the web form to reset their passwords. Some solutions include a telephone interface for resets, access to secure web kiosks, and reset tools for support staff. Several vendors provide access to the reset function from a pre-Windows login screen that redirects the user to a secure website. Courion and Fischer International enable password resets from personal digital assistant (PDA) devices, in addition to voice, kiosk, web, and network login options. Hitachi ID provides GINA extension, Vista Credential Provider, and clientless options to help users unlock their workstations, including solutions for remote, offline users.

Identity Audit

Vendors have added identity audit (IdA) features to their provisioning suites as regulatory compliance has become the primary business driver for provisioning deployments. Some vendors offer stand-alone IdA components, while others have embedded the features in the provisioning product itself. Most provisioning solutions provide identity-centric reports about who has access to what, who performed which actions on what resources, and which rights conflict and thus allow excessive privileges. IdA extends beyond reporting and provides both preventive and detective controls.

IdA supports preventive controls by allowing organizations to define access control policies, such as SoD policies. These policies are then linked to corporate-level internal control objectives. IdA enables detective controls such as access review and certification; reconciliation of users' entitlements compared to what is dictated by policy; and detection of out-of-policy, dormant, or orphaned accounts.

Role Management

Role management provides a mechanism to manage the correlation between business responsibilities and the resources required to satisfy them. In practice, responsibilities are typically described as business roles and resources are typically grouped into corresponding IT roles. The creation and management of these roles and the associated policies are the domain of enterprise role management (ERM) solutions.

Provisioning solutions have typically consumed IT roles produced by these solutions. Provisioning focuses on providing access to resources but is not well suited to answering the question of why a certain access is granted or revoked. From this perspective, the notable synergy between provisioning and role management captures who is assigned to a role, what are the conditions for the assignment, and what resources are granted to the role. This satisfies the needs of IT administration and audit, as well as business and process management.

The recent acquisitions of Bridgestream, Eurekify, and Vaau by Oracle, CA, and Sun, respectively, promise to provide more seamless integration between role management and provisioning solutions for these vendors. However, it will take time before these solutions are fully integrated into the vendor's IdM suite. Adopting the discipline to maintain the proper association between responsibilities, conditions, and resources will be the greatest challenge to organizations considering role management solutions.

Market Insight Diagram: Methodology

The provisioning Market Insight diagram illustrates Burton Group's overall perspective on the provisioning market. In order to assess vendors, we employed an exhaustive data gathering and evaluation methodology. The evaluation was primarily based on customer input, but consisted of the following basic components:

- We interviewed customers who have worked with the vendors, and implemented the products, that we evaluated.
- We allowed vendors to provide one reference account, but we also sought customers independently, both within and without our own client base, to ensure a comprehensive and fair view of the vendor and its products.
- We asked these customers to provide input on their experiences with both the provisioning product and the vendor. These customer interviews were structured in a specific way, according to the evaluation categories and criteria defined in this document.
- We also utilized input that customers have communicated to us in dialogues regarding various provisioning products over the past 12 months.
- As a condition for participation, Burton Group required provisioning vendors to participate in an exhaustive product demonstration that generally took several hours to complete and much longer to prepare for.
- This demonstration was based on specific use cases that we designed well in advance of the vendors' participation.
- Burton Group based the use cases on our direct experience with customer requirements in consulting engagements, inquiries clients have made to our analysts, and a disciplined approach to researching how customers are using provisioning products. The use cases were identical for every vendor, and we did not allow vendors to negotiate over the specifics of their use cases.

- As a condition for participation, we required provisioning vendors to complete a comprehensive survey.
- These vendor surveys were structured in a specific way, according to the evaluation categories and criteria defined in this document.

We took the results of customer interviews, product demonstrations, and vendor surveys, and we compiled and rated those results against Burton Group's predefined evaluation criteria.

Market Insight Diagram: Evaluation Criteria

As discussed in the "Evaluation Criteria" section of this Market Landscape document, Burton Group assessed each vendor's capability as well as its strategy and vision. The following sections define these categories.

Capability

A vendor's capability is not only differentiated by the product it offers but also by its ability to deliver a solution to the market. Burton Group assessed vendors' capabilities in five areas, including product; viability; market leadership; sales, services, and support; and customer satisfaction.

Product

Burton Group evaluated the quality, completeness, and capabilities of each vendor's current provisioning product and conducted an in-depth analysis of how each vendor's product stacks up to its competitors. Specifically, we evaluated how well the product solves customers' problems. To do this, we spoke to customers and service providers that have implemented the product, and we evaluated the product's features and functions during a product demo.

We evaluated the products in five key areas:

- Features including:
 - User lifecycle management
 - Workflow
 - o Self-service
 - Delegated administration
 - System administration
 - o Connectors
 - o Role integration
 - o Password management
 - Audit and reporting
 - Access review and certification
 - Integration with the identity management (IdM) suite
- Architectural components including:
 - Application construct and platform support
 - The provisioning server
 - o Repositories
 - Data handling and synchronization
 - Event processing
 - Localization of the product
 - Security
- Usability
- · Performance and scalability

Ease of deployment

Viability

Because the provisioning market is volatile, vendor viability is a concern for many organizations. Burton Group assessed the financial condition, stability, and long-term outlook of the provisioning vendor, as well as the sensibility and practicality of each vendor's business model and go-to-market strategy. Burton Group also considered the viability of the provisioning business within the vendor's larger organization. We assessed vendor viability based on:

- The financial condition of the organization
- The revenue and growth of its provisioning product
- The vendor's business model
- Its investments in and commitment to research and development (R&D)
- · Operational efficiency

Market Leadership

The provisioning market is dynamic. Leading vendors respond as market dynamics shift. Burton Group evaluated how each of the vendors have responded to market demands and opportunities, as well as competitive challenges (both self-created and external). Market leaders set the tone and the agenda of the market, establishing issues that other vendors must respond to. We evaluated each vendor's position in the market, relative to its peers and competitors, and its ability to set a market agenda. We also evaluated vendors' ability to effectively lead the market through messages that outline a solution to the customer's problem.

Burton Group considered the vendor's existing install base and market share data from a variety of external sources. But we concentrated on who has momentum going forward. Market share is more of a rear-view mirror, whereas momentum is more of a forward-looking predictor.

Sales, Services, and Support

The provisioning market is a global market with diverse customer needs. With that in mind, Burton Group gauged each vendor's ability to sell to and support customers in a global market. This includes the ability to provide reasonable pricing and packaging options for enterprise organizations, small to medium-size businesses (SMBs), and customers in a specific vertical market.

Burton Group also considered the services that vendors make available to customers. These include technical support, documentation, and training programs, as well as in-house deployment services. In addition to in-house services, Burton Group evaluated each vendor's partner ecosystem. Vendors often provide services in-house, but their ability to create an ecosystem around a product through partnerships with system integrators (SIs) and other service providers is a key indication of how effectively a vendor sells and follows through on sales commitments. We evaluated each vendor's sales, services, and support as follows:

- Global sales support
- Pricing, packaging, and delivery methodology
- Technical support, documentation, and training
- In-house professional services
- Partner ecosystem (technical partners and integration partners)

Customer Satisfaction

Customer experience and satisfaction are critical to a vendor's overall success in the provisioning market. Burton Group solicited direct feedback from customers regarding their experience with both the provisioning product and with the vendors themselves. We considered technical and account support programs, and we assessed how attentive and responsive the vendor was to customers' needs. We carefully evaluated how effectively the vendor works with customers through its support programs and service-level agreements. Burton Group evaluated customer satisfaction based on the:

- Customer's overall satisfaction with the product
- Effectiveness of the vendor's account services and technical support
- · Vendor's commitment to customer satisfaction

It is important to note that customer satisfaction is a heavily weighted consideration in all categories and was used as a factor throughout the entire evaluation process. Burton Group did, however, ask customers targeted questions that were specifically aimed at revealing their overall satisfaction.

Strategy and Vision

The provisioning market has been, and continues to be, fast-paced and evolving. It has also been volatile, as products have matured quickly, vendors have been acquired or exited the market, and customers needs have progressed. An important aspect of understanding a vendor's position in the market is not only understanding the "here and now" but also understanding the vendor's vision for the future and its strategy for achieving that vision. Burton Group assessed each vendor's strategy and vision in three key areas, including the alignment of the vision to market needs, the internal alignment of the vision with the vendor's corporate strategy, and the product's delivery and alignment with the vendor's vision.

Market Alignment

Vendors obviously must understand customer needs and meet those needs effectively with their products. However, customers do not always fully understand their needs until they see it. In other words, they don't recognize the need for a new feature until they see it in a demo or a product brochure and realize that it will help them solve a problem or do their business better. As part of our competitive analysis, Burton Group evaluated each vendor on its long-term strategy and vision and on the predicates for that strategy. We also evaluated how well the strategy aligns with market demands and customer requirements and how well it aligns with Burton Group's understanding of where the market must go in order to solve customers' problems.

Often, vendors base their strategy on self-serving predicates. A product that should be free to compete based on its merits may be bound artificially to another product, for example. Vendors have been known to protect their core products (or legacy products) at the expense of progress in other areas that are critical to solving customer problems. Product bundles, partnerships, or other arrangements can often impede or speed a product's ability to solve problems. Burton Group assessed how aggressively a vendor is pushing for overall problem resolution, as opposed to simply acting in its own interests. Leaders let enlightened self-interest drive their strategy, knowing that focusing on solving the customer's problem is the best long-term strategy for winning business.

Burton Group also assessed how attuned each vendor is to market dynamics and competitive conditions that may pose a threat to its overall strategy. We assessed how well positioned the vendor is to deter these threats.

Internal Alignment

Different product groups or divisions within a single vendor can often be at odds. Burton Group considered how well the strategy of the provisioning product group or division meshes with the vendor's overall corporate-level strategy. Burton Group assessed how well the vendor's provisioning strategy is is supported by other groups internally.

Product Alignment

Any vendor can talk the talk, but Burton Group appraised each vendor's ability to walk the walk. We looked at each vendor's current product and its longer-term product roadmap to determine whether its product offering is aligned to its marketing, positioning, vision, and claims.

The assessments of each vendor's capability and strategy and vision were applied to a weighting and ranking system as seen in Table 1.

Weighting and Ranking

We assessed each vendor's capability and strategy and vision according to the preceding categories and criteria by applying a weighting and ranking system as follows:

Capability	
Product	30%
Customer satisfaction	20%
Sales, services, and support	20%
Market leadership	15%
Viability	15%

Strategy and vision		
Market alignment	35%	
Product alignment	35%	
Internal alignment	30%	

Table 1: Market Insight Weighting and Ranking System

The results of the weighting and ranking were applied to the market insight diagram. Vendors were positioned in one of four categories, including the Short List, Conservative Contenders, Innovative Contenders, and Marginal Contenders. See the "Competitive Analysis" section of this Market Landscape document for the results of our analysis and the market insight diagram.

Conclusion

User provisioning is viewed as a critical component in the efforts of many enterprises to maintain compliance with an ever-growing number of laws and regulations. Increased demand has helped to cause a reshuffling of vendors in this market through acquisition, but more than 20 vendors remain in a very crowded market. Product evaluation and selection is difficult and confusing as enterprises compare requirements against the various vendor approaches. However, product selection is only part of the journey to successful implementation. Enterprises should also apportion adequate time to project planning and preparation.

Author Bio

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Emphasis: identity management, directories, provisioning

Background: Lori Rowland is a senior analyst for Burton Group Identity and Privacy Strategies. She covers identity management, provisioning, and directories. Prior to joining Burton Group, Lori was apart of Novell's Security Identity Management development team as DirXML deployment manager. With 10 years of experience, Lori expertise in ERP applications, business process design, directory services, identity management and provisioning has provided her frequent speaking appearances at BrainShare, and PeopleSoft's end user-conference.

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