



Service Qualification: Dead End Technology Or The Future Of Provisioning

By Bruce Bahlmann ■ *Birds-Eye Network Services*

Building tools for broadband service providers to pre-qualify and then automate the installation and follow on support of their subscribers still seems to be an attractive and profitable business. Three vendors currently lead the charge to offer this software to broadband service providers, but what is the future of this technology once everyone gets signed up? In this article we will review the service qualification market that currently exists and where this industry is headed.

Service Qualification Market

According to Yankee Group forecasts, broadband data service in the US is growing at that rate of about 5 million subscribers per year. Average churn among broadband data providers is about two percent which results in an additional ~614k subscribers changing providers yearly. As a result, there is a yearly opportunity to sell 5.614 million units of service qualification software within the US alone annually—at least through the year 2007. The 19 million broadband users in the US (in 2002) represented roughly six percent of the US population and the projection is that up to 17% of the US population will have broadband subscriptions by the year 2007. If the US population represents 4% of the world population, the global annual market for service qualification software is approximately 126 million units; assuming the penetration and adoption rates worldwide resemble that of the US. Of course these assumptions are not the case, so this figure is a best-case scenario.

Service qualification software vendors (see Table 1.0) receive anywhere from \$0.50 to \$1.50 per unit for their soft-

ware. If we average this cost over all units sold, the average costs of service qualification software is probably around \$1 US per unit or less. So the worldwide market for service qualification software is around \$126 million annually (at least through 2007).

lar global market is probably not a big enough industry to support so many vendors. Thus, software vendors in this space have expanded their products into other markets to increase their profitability and address their customers' ongoing needs. Some areas where these service

Company Info	Founded
Fine Point Technologies 139 Centre Street, 6th Floor New York, NY 10013 PH: 212.962.7410 www.finepoint.com/	1997
Motive Communications 12515 Research Blvd, Bldg. 5 Austin, TX 78759 PH: 512-339-8335 www.motive.com	1997
SupportSoft 575 Broadway Redwood City, CA 94063 PH: 650.556.9440 www.supportsoft.com	1997

Table 1.0 Leading Service Qualification Software Vendors

The actual share of the \$126 million received by leading vendors in Table 1.0 (as well as the dozen or so other smaller service qualification vendors) is dependent not only on the number of broadband service providers each vendor signs up but also how many subscribers each of those vendors support. Note that a number of broadband service providers may use multiple service qualification vendors so any one vendor may not be able to claim all of the broadband service provider subscriber numbers.

Other Markets

Providing service qualification software to a share of the \$126 million dol-

qualification companies are expanding include:

- Operational support software and/or service provisioning
- Network management and/or client experience monitoring
- Post installation troubleshooting and diagnostics
- Value added services (e.g. messaging, virus control, help desk, etc.)

The major difference between these vendors and network management or diagnostic companies is that service qualification companies can benefit from a large installed base of broadband service providers already using their software. Service qualification vendors also bene-

fit from the fact that end users (Internet customers) and broadband service provider field personnel are already familiar with their user interface and potentially even their product brands making it easier to up sell new products and services. In addition, since their entry price is low and long since paid for service qualification, vendors can more easily add services on top of their platforms making it more attractive price and feature wise for broadband service providers to expand their relationship with their service qualification vendor in lieu of starting over with a completely new solution and vendor. Rolling out additional features on top of the service qualification platform is a key to evolving and extending the value of the proven service qualification technology. The more features and services that can be rolled out on this platform, the more critical it becomes to everyday operations of the service.

Figure 1.0 shows a typical broadband customer care process. Service qualification software now addresses the first two boxes (left to right). Some service qualification software can address all of the first three. At the same time service qualification vendors are inching up through the customer care process. Billing, workflow management, network management, and provisioning vendors are inching their way down the customer care process in an effort to provide an increasing portion of an overall solution.

But how can service qualification software vendors address the higher order needs such as provisioning, mediation, and network management from the edge of the network? The answer is fairly simple and is in many ways far superior to that of the centralized solutions they will ultimately compete against. Before we can discuss the basic concepts of such an approach that I call "edge or endpoint provisioning," lets review the challenges faced by existing provisioning systems.

Challenges Existing Provisioning Architectures Face

Existing provisioning systems must depend on interactions with some ser-

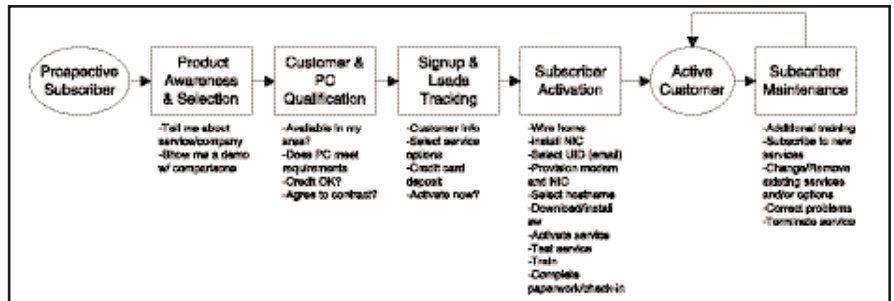


Figure 1.0 Broadband Customer Care Process

Leaders in the Private Broadband business since 1985.

SMS has offered the same personal service and great prices, from the same ownership ... with no major management, location or attitude changes for 19 years.

Experience private cable's best "one-stop shop" ... only at SMS! How can we help you? Call for a free, no-obligation price quote or phone consultation. Or check our website at smstv.com.

DIRECTV and DISH digital transport
HITS digital transport
All analog programming
All major hardware vendors



**Satellite
Management
Services**
(800) 788-8388
smstv.com

vice authorization host (typically a central web server or web-portal) via a browser on some Customer Premise Equipment (CPE). This web-portal centric approach has the following issues:

- **Scalability:** A central web-portal may be sufficient for small to medium size broadband service provider but will have trouble scaling to larger (carrier class) systems or increased traffic per subscriber (handling large numbers of simultaneous requests). As a result, to satisfy these systems one would need to eventually build out web-portals to the distribution hubs of service providers to have even a chance at satisfying the transaction load for such systems.
- **Marketability:** Since such provisioning systems are comprised of highly customized applications, they only are able to service broadband service providers. Other markets such as enterprise, universities, and government easily fall outside the functional comfort zone of provisioning vendors thus limiting their potential clients. In fact, most provisioning vendors either service telephone or cable broadband service providers but not both.
- **Applicability:** not every broadband service has (or will have) access to a browser to interact with a central web-portal. For example, a pure content provisioning service would be severely limited if it was required to interact with a central web-portal. Home appliances are also increasingly becoming broadband capable and as they do, they will likely not include a browser. For these applications, a requirement to interface with a centralized web-portal cumbersome if it is even possible.
- **Overhead:** Interfacing with a web-portal requires overhead to download complete pages of data that are mainly communicated in clear text—not to mention the complex task of building all those pages (or user interfaces) initially—all of which are geared towards instructing an end user how to complete them. As a result, all interactions with a web-portal must cater to its lowest level user thus complicating its ability to handle simultaneous transaction-oriented traffic.
- **Identification:** One would need to log in or provide some kind of security (username/password) to interface browsers with a website and may well have to encrypt each message between the central web-portal and the CPE. Although there are some technical tricks to permit some crude form of identification, this traffic coming into the central web-portal all looks the same. Today's methods of using Media Access Control (MAC) addresses, Internet Protocol (IP) addresses, and domain names to identify customers and devices will be hard pressed to identify broadband capable consumer goods and their many users.
- **Message Security:** Web-portal content is inherently not secure. The content is all clear text and although there are security extensions to protect this data (such as HTTPS and SSL), that often comes as overhead to the traffic and eventually impacts its speed and performance and/or scalability.

As a result of these issues, limitations exist within web-portal centric provisioning approaches that will prevent

"Edge provisioning involves handling the provisioning transactions as close as possible to the customer—which may be considered the edge of the network."

them from evolving beyond servicing CPEs that do not represent a full-blown computer (such as a telephone, a security system, a television, etc.). To address all types of CPE provisioning a new system is needed that overcomes the issues of web-portal centric provisioning and provides a means of evolving provisioning with home appliances as they become more commonplace.

Edge Provisioning

Edge provisioning involves handling the provisioning transactions as close as possible to the customer—which may be considered the edge of the network. This approach is quite new and has yet to be thoroughly explored within the provi-

sioning space. For edge provisioning to be successful, the client application that resides within the customer's dwelling and/or desktop must become quite useful to the subscriber—beyond the current tasks they perform such as initial install or infrequent troubleshooting and problem resolution. Ideally, it would be great to have this application always-on, perhaps even running on their residential gateway or start up alongside the operating system and provide initial checks to ensure the service is fully up and running, from there provide opportunities for the broadband service provider to communicate with its online customers. For example, if the email server goes down, the broadband service provider can make available a message pull to alert all subscribers telling them the email server is under repair, when it will be back on line, and that none of their incoming email will be bounced.

Edge provisioning can benefit from providing the consumer, as well as the broadband service provider, with intelligent offerings of services that do not require web enablement, complex process-

es, or workflow management in the backend. A simple transaction server may be all that is necessary. Edge provisioning clients may obtain all their user interfaces dynamically or possibly cache certain pages locally—all with the concept of providing only the most recent look-n-feel, tools, and service offerings available to manage subscribers' services from the edge.

The edge client should have direct access to the subscriber's billing/service account (perhaps be a direct extension of it) all the while providing the means to quickly, easily, and securely modify any aspect of their billing/service account in real-time. If the customer wants to contact customer care, request a service visit,

or perhaps order some promotion all this can be done through the client. If the customer wants to check the status of his account, orders pending for service, request credits, etc. all this would be available via the client. The goal here is to act as an extension of the customer care group proving automation to service requests and offloading busy call centers with tasks that individual subscribers can do just as easily when armed with the right tools.

The edge-provisioning client would represent the first real connection between broadband service providers and their subscribers. It would represent a quantum leap for broadband service providers who find they must use snail mail as the only sure way to reach their Internet subscribers, as many of their subscribers do not use their provided email addresses. Subscribers should have the ability to customize their experience of the broadband client (ignore certain promotions or low priority alerts). While

this client would be promoted as optional, the vast array of features would make it indispensable for broadband users of all skill levels.

The edge-provisioning client could also act as a valuable information collector regarding the client experience as perceived from the subscriber's location. Client experience monitoring is an excellent non-invasive way to monitor the perceived user experience at the customer's location without attempting to do this invasively from some remote location. Data collected from these tests could be rolled up and provided to network operations to help with network planning and address isolated bottlenecks.

In Summary

Edge provisioning would deliver numerous economic benefits to the broadband service provider by enabling a streamlined headless service authorization architecture, offload the bulk of cus-

tom service requests, provide enhanced network health information, and provide a convenient way for broadband service providers to effectively communicate with their subscribers. Edge provisioning offers service qualification vendors a real shot at providing much more than the small piece of the customer care process they currently supply. While numerous details need to be worked out as to how exactly would edge provisioning function, the value of having this capability may well catapult service qualification vendors into multiple broadband markets and quite possibly long term profitability. ■

About the Author

Bruce Bahlmann is CEO for Birds-Eye Network Services, a provider of market research, authoring, competitive custom development, and a growing array of network monitoring and reporting solutions. He may be reached at 651-398-4679 or info@birds-eye.net.

Transform Your Building Into A Broadband-Ready Property -it's easy!

Without re-wiring – uses existing CATV/coax cable

Without costly capital investment

Without interference with CATV, DBS, VOD

It's Not Magic...It's coaXmedia!

For more information check us out on the web at www.coaxmedia.com or call us at 877-885-COAX (2629)

coaXmedia[®]
LIGHT YOUR BUILDING WITH COAX™