A Tale of Two IPT Service Providers
By Barbara Lancaster, President LTC International

IP Telephony is rapidly reshaping telecommunications world wide. "Traditional" Billing systems, like "traditional" voice time division switches, are reaching their expiration, even for "traditional" Service Providers. For new IP-based Service Providers, "traditional" Billers just don't fit the business model.

Vonage and Pipemedia are pioneers in the IP Telephony business; each achieving steady growth over a period of years. Vonage is primarily focused on the consumer and small business market, while Pipemedia also offers a hosted IP PBX offering for larger business customers, as well as re-selling DSL directly to its customers. By attending OSS exhibitions, talking with a variety of vendors, and in Vonage's case, bringing the "closest fit" vendor in for a pilot evaluation, both ended up defining, building, and operating their own customer care and Billing solutions.

Looking back

In a circuit switched network, it was reasonable to justify the price of 'long distance' on the basis that calls that travel a long way cost Service Providers more to carry than calls that go across the street. We were all conditioned to agree that calls placed during peak hours (i.e. normal business hours) were of more value and therefore priced higher than calls made on weekends, evenings or cheapest of all, in the middle of the night.

The disruptive force of IP

IP Telephony makes nonsense of the time-and-distance charging model - it is possible to transport the IP telephone service from New York to Sydney by simply plugging an IP Phone, or an Analog Terminal Adapter into a Broadband Access connection point in Australia to enjoy exactly the same service as if you were still in Manhattan.

The new low-cost network model has of course created the influx of new pure IP players into the Service Provider market. IP Telephony Service Providers (IPT SP) can buy wholesale capacity at a fraction of the build costs and enjoy the benefits of being buyers in a buyers market (although there are some signs that this imbalance is now beginning to even out). They can gain access to customers directly through tried and tested DSL technology, which has a low "barrier to entry" cost. But they still need systems to charge and bill their customer services. While each IPT SP we recently interviewed indicated that they first looked at the traditional "tools of the trade" used by traditional telcos, each quickly found that these tools were not what they had in mind.

As Lewis Holder, EVP Development at Vonage observed: "There were some great packages that did some of everything, but because they were so broad, they became too complex and too expensive. They couldn't "dumb down" their systems to meet our needs and our price point." These views were similar to those expressed by Pipemedia's Operations Director, Mark Seemann. Pipemedia chose to build their own customer management system from its innovative CD-ROM that walks each customer through all aspects of Broadband setup and feature activation, through to a web-based customer self-service capability that is

well received, and well used by Pipemedia customers for all aspects of service and billing. As early entrants to the IP Telephony market, Mr. Seemann points out that Pipemedia had time to determine what they really needed. As a result, he believes their "…PipeCall VoIP solutions are ahead of the marketplace in terms of features and reliability because the systems were built from direct customer feedback."

What do IP Telephony SPs want from Billing Systems?

As already suggested, the old time-and-distance long distance charging models are pretty much history. Today's popular flat rate approach to "all you can eat" usage also reflects more closely the reality of how Service Providers and Carriers are charging each other for capacity and usage, even in mixed networks of some circuit switching with IP backbones. Perhaps most important to today's Service Providers is a radically reduced cost-base, essential given the ultra-slim margins available from today's service offerings. It's not surprising that our survey respondents uniformly said that they required their OSS environments to have, "Low cost, straightforward functionality and scalability."

What's wrong with today's Billers?

"Low cost, straightforward functionality and scalability" is a description that can hardly be applied to the big players in the Billing OSS market today, (e.g. Amdocs, CSG Systems, Convergys, or even MindCTI, or Portal Software). The multi-million dollar Billing environments are just too rich (in every sense). They were designed in the TDM-switched era of time of day; day of week; distance-sensitive charging. Mandatory features included being able to send out detailed invoices every month and to process paper checks, overdue notices, suspensions of services, credits for wrong numbers, late payment/interest charges, etc.

Traditional Billing systems also have complex routines for enabling a wide variety of invoice layouts, payment management, and collection routines. In a world of on-line accounts, flat rate plans and credit card payments, this elaborate functionality also becomes an unwanted expensive component.

Therefore, it's not surprising that our survey of IP Telephony Service Providers concluded that they had all examined the product offerings available from the Billing OSS Vendors and had rejected them because none of them could deliver what they wanted at the price they were prepared to pay.

Why Vonage and Pipemedia chose build over buy

> Telephony-oriented Billing systems just don't fit the IPT SP model well, which looks and feels a lot more like a Retail store. In fact, Mr. Holder said that they deliberately used IT developers with a lot of retail system experience (and zero telco experience) to design, implement, and operate their Billing environment.

Rated a complete success, the Vonage system does not even have the concept of a CDR anywhere in its design. How can this be? In a complete break with the past, the Vonage IT developers decided that call information is just like all of the rest of the information a company needs…it's just data. We must admit we had some difficulty grasping this approach at first. Upon further reflection however, (and shedding some of our own dinosaur scales in the process), it became evident that this basic premise is true. And if all of the data needed to run the company is stored in databases against which queries can be run…it becomes easy to see that when it is necessary to create a

record of a specific call, it can be easily constructed by running a query for the appropriate data elements, on demand. Essentially, this IPT SP is cutting out almost the entire step called Mediation, a significant streamlining in the complexity of call processing and switch interfaces.

> Telco people like to believe that OSS can be a differentiator for their services. Our belief is that business processes are the differentiator and that systems merely enable those processes to run reliably; processes that can handle the "usual" with great efficiency and speed, processes that handle the "exceptions" gracefully, and processes that enable contact with a human should all else fail. These are the differentiators – when you buy bread from the store you don't care what system gets it onto the shelves or what system is used at the checkout – just as long as the loaf is there and you can pay for it without hassle.

> The tools available to IP Service Providers wanting to build their own solutions are efficient and relatively inexpensive. Popular choices include C++, Java and Linux and industry standard databases such as Microsoft SQL and Oracle.

Each of our survey respondents said that they believe they achieved exactly what they wanted from their Billing systems, at a fraction of the cost from an OSS Vendor.

What conclusions can be drawn from this?

> The radically different business model of today's Service Providers requires a radically different approach to OSS.

> There are likely several other "brave new world" ideas (like not creating a CDR for each and every call) that can be borrowed from other industries, and successfully applied to the Service Provider business that will further streamline business processes and OSS complexity.

> The cost, complexity, and timescale to 'build your own' are much lower with today's software development tools and database technologies.

> Even very large "traditional" Service Providers should be seriously considering dramatically leaner Billing solutions.

Inertia will continue to enable a market for the traditional package vendors and Service Bureaus for some time to come, but as IP becomes the dominant network of choice for big and small carriers, incumbents, and new generation players alike, we see acceleration toward streamlined, low complexity, low cost Billing systems. In our view, these systems will increasingly come from the Service Provider IT departments, and vendors of transaction-based systems (like Retail), not other vendors of telephony Billing systems.

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