Expense Management Solution Choices: Invoices vs. Inventory

Robert Lee Harris

Which came first—the inventory error or the billing error?

Telecom expense management (TEM) software isn't new, but it is getting more attention recently as large enterprises look to get control over their expenses and to comply with Sarbanes-Oxley (SOX) and other regulatory mandates. According to Gartner analyst Eric Goodness, the TEM market is poised to grow to $1.2 billion by 2008.

Besides regulatory compliance, telco billing practices also are driving renewed interest in TEM software, which automatically processes and "audits" the invoices that are sent electronically by large telephone companies. Most enterprises already get many more invoices than they can properly manage manually, and more are on the way. Due to detariffing of many traditional services and the addition of many new ones, telcos enjoy more flexibility in pricing structures than they have known in decades. Because the telcos are not updating their legacy billing systems, however, customers have no reason to expect bills for new or detariffed services to be any more accurate than they have ever been.

In my experience, enterprise customers that implement TEM solutions properly not only save money by rectifying inventory and billing errors, but they also gain leverage in competitive procurements and contract negotiations by knowing exactly what they are using and paying for. If you are thinking these are worthwhile objectives for your company to pursue, this article should help you understand some of the prominent TEM solution suppliers, as well as the challenges of implementing TEM.

Who Is Offering TEM Solutions?

TEM software companies have surfaced from several different segments of the telecom industry. It is worth understanding their background, because it influences their approach to the TEM process.

For example, many call accounting vendors, including Avotus, Telesoft and Anchorpoint have added TEM modules to their legacy products. Most classify invoice expenses, line by line, using a directory structure similar to their call accounting hierarchy, although some have integrated TEM more tightly with call accounting than have others. Alan Gold, chief marketing officer for Avotus, states, "Our roots were in the call accounting and cost management world, but our vision from the beginning has been to add automation and business processes to the technology to encompass the whole lifecycle management of a company's communications spend."

"Call accounting has expanded to become usage management," he added, noting that Avotus also tracks cellular billing, calling cards and small branch offices that use POTS or Centrex lines and require usage tracking—basically whatever has call-by-call usage detail records (SMDR) and is available on an electronic bill.

Several telecom consultants such as Profit-Line, Control Point Solutions and Vercuity, who have managed telecom expenses for their clients for years, as a type of business process outsourcing (BPO), have gradually evolved into TEM application service providers. Most began by offering clients Web access to their inventory, expenses and disputed bills; then they added Web access for clients to request moves, adds, changes and disconnects. Many of these providers have years of telecom management experience, although few have done the programming work necessary to offer a full "self service" ASP option.

Other TEM applications, including Rivermine and Razorsight, began as invoice translation or provisioning tools for telco carriers, then modified their applications to accommodate enterprise customers. These solutions typically handle the telco billing data very well, but they may be top heavy for mid-sized businesses or even larger enterprises with modest telecom spending (less than $10 million annually).

Finally, some companies, such as Symphony Services, have created telemanagement suites

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Features To Consider In A TEM System

- **Provisioning—**Does the system have a service ordering capability? Does the completed order automatically get added to inventory? How well does it work with your main service providers?
- **Inventory—**Does the system track costs of inventory items? How is the inventory categorized? Does it match up to the data received on the invoice?
- **EDI Capabilities—**What carriers has the company mapped EDI billing for? What level of detail is retained in the processed data?
- **Input Capabilities—**What are the input options? Can paper bills be entered *ad hoc*? Is the electronic input a scheduled process?
- **Invoice Approval—**How easy is the invoice to review? Does it match what would be seen in a paper bill?
- **Accrual/Missing Invoices—**Does the system know when it is "expecting" an invoice from each account?
- **Expense Auditing Capabilities—**What criteria are used for finding cost exceptions? Is it predefined or does the customer have to build it? Can it verify usage rates, historical spend amounts, third-party charges? Can cost thresholds be controlled by the user?
- **Contract Management—**Does the contract module link actual expenses to contracts? Will it notify you when a contract is due for renewal? Will it match impacted accounts to that contract?
- **Security Access—**If using an ASP, what encryption is used? How are each customer's data sets protected? Does the system have the ability to allow approval thresholds? Can users be restricted from certain functions (e.g. account setup) or viewing specific data?
- **Audit Trails—**Is there a tracking mechanism for each order, approval, disconnect, etc?
- **Dispute Management—**Does the system have a way of tracking dispute correspondence? Does each dispute link to the specific disputed line item?
- **User Interface—**Is the user interface intuitive? Is navigation between modules easy? If it's an ASP, is it fast to use?
- **Upgrades—**Are upgrades a paid option, or included? What prompts a release upgrade? How often are releases issued?
- **A/P System Integration—**Can the system interface with the customer's AP system? Can payment history be accepted back into the TEM system?
- **Reporting—**What reports are included? Does the system have *ad hoc* report capabilities?□

through acquisitions and partnerships. Conversely, there are a few other companies, such as Asentinel and Invoice Insight, that have built their TEM systems from the ground up.

Whatever their background or specialty, most TEM solution providers are small, private companies, although some have been in the business for years serving many Fortune 1000 and Global 2000 companies. Investing significant resources into implementing a TEM solution from a small private company poses some risk to the enterprise customer, but it can be mitigated by software escrow agreements, backed-up data and amortized implementation costs.

The Lifecycle-based Approach

TEM solutions are primarily of two types: invoice-driven or lifecycle-based. Each has its advantages, with the pros and cons partly related to implementation choices, and partly to where you expect to find the greatest savings. In my experience, about half your savings will come from billing errors, such as third-party charges and non-contract rates, which are easiest discovered using the invoice-driven TEM solutions. The other half will come from inventory discrepancies, such as lines billed after disconnect or forgotten services—and these are discovered best while doing the comprehensive up-front verification that characterizes the telecom asset lifecycle approach.

Starting with a clean slate, the lifecycle approach makes sure that every service, every circuit and every bill is verified before it's brought into the TEM system (there's more below about how data are brought in). This can take a long time, but you will end up with a comprehensive process in place for tracking telecom expenses.

Lifecycle solutions involve service ordering, MAC activity for voice and data, inventory, facility moves, directory updates, accounts payable integration and sometimes ERP system integration. Because these dependencies usually span multiple departments, you need to be sure that they also are committed to the solution.

As an aside that illuminates the difficulties of a lifecycle TEM implementation, I recently worked with a client that was fortunate to have kept the records of every circuit and service order that had ever been placed. Unfortunately, that "inventory" was spread across hundreds of carrier reports, spreadsheets and project folders throughout the IT department. This is typical of a large enterprise: There is a complete set of information, but it isn't organized, or even in one place.

The Invoice-driven Approach

In contrast, the invoice-driven approach simply imports all the billing data without verification, then uses the system to flag disputed bills. Proponents of an upfront inventory will scoff at what could be perceived as a "garbage in, garbage out" approach to TEM, but the invoice-driven approach

Lifecycle TEM solutions will require the involvement of other departments

Invoice-driven TEM solutions can let you postpone the physical inventory project

is not without merit. It can "stop the bleeding" quickly and achieve some fast savings by giving the enterprise customer a view of all the charges.

Once you have visibility to all the billing, items will show up that just don't make sense, e.g., services to a site that is now a parking lot or to the restaurant down the street, frame relay ports with no PVCs or activity, etc.

"What we mean by a fast inventory is that the carrier already has an inventory—it's what they bill you for," said David Spofford, CEO of Invoice Insight. "We can get that loaded within 30 to 45 days. Then you have a baseline from which to start [your inventory work]."

Spofford said he thinks most carriers' inventory is 90–97 percent correct, but not all billing errors are inventory-related. Many come from issues like slamming or non-contract rates that can be identified prior to validating inventory, which can be done after the invoice-based system is up and running. "It's not that doing a physical inventory and customer service records (CSR) audit are bad," he added, "but a physical inventory is expensive and time consuming."

Pros And Cons And Choices

It would be nice if you could use any TEM system for either implementation approach, but this is not really the case. A lifecycle system usually "normalizes" the billing data, organizing it into reportable inventory and expense categories. This is useful for higher-level management reports, network planning and contract negotiations, but it also can make service inquiries more difficult on unverified lines, since you are disputing a circuit or service that you no longer see under its CSR terminology.

On the other hand, an invoice-driven TEM system, which accepts telco data in its industry format, makes it harder to validate the bills with an inventory project, and it can be tempting to postpone the physical inventory indefintely once the system is implemented.

Again, all of these issues confirm the importance of determining your implementation strategy prior to selecting a system. If only it were simple to say which methodology is more effective. Partly, it depends on whether you think billing or inventory errors are more prevalent in your billing—although, of course, your assumptions could be wrong.

Service Provisioning

Unlike the invoice-driven TEM solutions, most of the lifecycle solutions include service order issuance and tracking modules. The way these are structured varies, but Rivermine's is a representative example. From its roots as a provisioning product developed for the company Telco Exchange, a reseller of telecom and DSL services, Rivermine added invoice processing in 2002, according to marketing VP John Shea.

"Our Service Order Manager capability was originally built to automate all of these carrier reseller capabilities," he said, "So the inventory is automatically updated every step of the way and kept current when invoices are processed."

Avotus takes a unique approach to automating the procurement process, with its database of current market prices and an automated RFP and reverse auction process that it calls e-Procurement. "We run so many auctions—hundreds and hundreds," said Alan Gold, "that we have many accurate data points. Plus our results are derived from the post-auction numbers—not just costs, but terms, and service levels as well."

"Being post-auction," he continued, "means that our database contains rates that carriers are willing to provide if they are brought through the right process."

Carriers grumble about Avotus' automated Web auction, which is "a very different way of creating bids and evaluating bids," according to Gold. "They know it will drive their pricing down and SLAs up, but they always participate. I think they actually appreciate the extra visibility the process provides and that it creates a level playing field: New bidders know they have a chance, and the incumbent sees an opportunity to expand the existing relationship."

Since there are savings opportunities throughout the lifecycle, from procurement to billing dispute, does this make the most comprehensive lifecycle solution the automatic best choice? Before you start writing everything into your TEM RFP, consider the scope and resource requirements of the implementation process.

EDI Preferred As Input Into TEM Systems

Billing data can be input into TEM manually from paper bills, it can be loaded from billing CDs or downloaded from the telcos' Web-based account management systems. Obviously, the manual approach is least effective and completely impractical for organizations with a lot of billing accounts and services.

CD and Web-based billing information can facilitate automatic imports into a TEM application, but they are not always consistent with the paper invoices. As an example, the Perspective CDs delivered by MCI (now Verizon Business) are intended as an analysis tool; they do not generate a payable invoice. Expenses are separated into call detail and non-usage related charges in two different sets of data. A TEM system could potentially recreate the invoice costs from the Perspective CDs, but there is no guarantee that the costs will match the actual invoice.

For most telcos, the electronic invoice of record is formatted as ANSI X12 811 Electronic Data Interchange (EDI). EDI was developed in the 1970s and 1980s by the Accredited Standards Committee (ASC) chartered by the American National Standards Institute (ANSI), and the tele-

com version was intended primarily as a carrier-to-carrier billing platform. As enterprises gained access to non-proprietary networks, EDI billing transmission became less dependent on physical data tapes or slow value added network (VAN) connections, and it has become affordable for a larger pool of enterprise customers.

Electronic billing for VOIP services doesn't follow standards as consistent, but EDI is the standard for legacy telcos, even when they are offering VOIP service. Carriers that were born in the VOIP era use varied billing options. According to Invoice Insight's David Spofford, "VOIP services from Sprint, Qwest and Verizon are being billed via EDI. A few of our clients use Primus and they have a CD, but we have not pushed (them) on EDI since they are not a top 20 vendor."

Nevertheless, EDI data is a more complex set of transactions to translate than are most other electronic formats. Any TEM vendor that is proficient at EDI translation should be able to handle other formats (such as ODBC or csv) on CDs or from the Web-based telco billing systems. Avotus's Alan Gold is confident of this: "Voice technology is irrelevant to us. Billing is always a mix of EDI (best case), electronic/digital, and yes, lots of paper. We always aim to gather via electronic means, both because of the speed and accuracy, but we take pretty much any format."

Perhaps due to regulatory compliance or just movement toward standardization, this will change in the future. David Spofford, CEO of Invoice Insight states, "We do believe there will be a push to use the invoice of record and that is why, over the last several years, Invoice Insight has made a serious investment in EDI. With EDI invoices you have the official invoice, just as you have with a paper invoice. However, with EDI, you also have access to the data in an electronic format at a highly granular level."

The telecom industry uses 811 EDI—shorthand for the 811 Consolidated Service Invoice/Statement Transaction Set, which was standardized in the U.S. by the ANSI X12 committee. EDI can be ordered from telecom providers in various levels of detail.

There are nine hierarchal billing levels (HLs) in an EDI feed. Typically a TEM application will use HL8 data (which provides information down to the lowest charge level on a bill), although HL9 would be required to provide call by call detail for each circuit, calling card or cellular account.

Billing CDs from the telcos aren't necessarily consistent with the actual invoices

Telecom Expenses And Sarbanes-Oxley

TEM vendors are divided on the impact of the Sarbanes-Oxley (SOX) legislation on their systems and prospects. David Spofford, CEO of Invoice Insight, sees some clients requesting that the TEM system facilitate a SOX-compliant approval process.

"Clients are looking to the systems as part of a corporate policy initiative around the invoice approval process," said Spofford. "The telecom group says the CFO wants a global payment process and that telecom isn't in compliance because it doesn't have an approval process or systematic cost allocation."

To solve the problem, Spofford said Invoice Insight tracks events, time-stamped by the user, for everything that goes on in the life cycle of an invoice. "That goes a long way towards compliance and a standard process," he added.

In contrast, John Shea, VP of marketing for Rivermine, has not seen much impact from SOX audits or efforts to comply. "We surveyed our customers on SOX impact, expecting telecom—as a 'top five' expense item—would also be a major issue in a SOX audit," he said. "What we got back was that it's a big deal to get a clearly defined process of managing the telco expense as a 'top five' item, but that the specifics of the invoices themselves are below the [SOX] radar screen."

In fact, there is no direct impact of SOX on TEM, according to Martha Buyer, an attorney specializing in telecommunications law. "While expense management is important, it's not relevant under SOX, which is about the sanctity of financial data," she said. It is the accuracy of financial information (i.e. total aggregate expenses) which is a SOX issue, not whether the invoices contain errors. (For more about SOX, see *BCR*, September 2005, pp. 17–19.)

Although the enterprise may or may not be directly affected by SOX regulations, TEM providers who offer their solutions as a service certainly will be, via the Statement on Auditing Standards No. 70 (SAS 70) auditing requirements, standardized by the American Institute of Certified Public Accountants (AICPA). Scott Coolidge, a CPA in California and Massachusetts, explains the SAS 70 audit. "In today's global economy, service organizations or service providers must demonstrate that they have adequate controls and safeguards when they host or process data belonging to their customers," he said "In addition, the requirements of Section 404 of the Sarbanes-Oxley Act of 2002 make SAS 70 audit reports even more important to the process of reporting on effective internal controls at service organizations."

David Spofford, CEO of Invoice Insight added, "There is a push for a lot of the vendors to become SAS 70 Type 1 and 2 certified, and I think that's a good thing. We are in the final throes of our Type 1 audit right now."

TEM systems and services help keep telco billing and inventory errors in check

Although the hierarchy levels are fairly consistent, each carrier's EDI data must separately be mapped or "read" into a TEM system, which then either (1) preserves the original telco nomenclature and categorizes the services under the EDI formatted hierarchy levels; or (2) "normalizes" the data according to predetermined definitions and categories (e.g. AT&T Readyline, Sprint Basic Toll Free and Qwest Domestic Toll Free all become "Switched 8XX Services").

Conclusion

Let's look into the future: It's 2008 and the market for TEM solutions has grown to $1.5 billion, as predicted back in 2004. IT departments of all sizes are catching every error, tracking every dispute, and have best market prices on hand before they ever talk to the telco account rep.

What will the service providers do? Will they thank us for bringing all of the flaws in the billing system to light? Will the errors finally go away? It's doubtful, especially for an industry that took over a century to stop funding the Spanish-American War (by collecting 3 percent federal excise tax on phone bills).

A more likely response is for the telcos to beef up their own hosted toolkits. For example, Verizon Business last month launched the Integrated Telecom Expense Management Service using Symphony Services' capabilities. The hosted solution tracks wireline assets, and is not limited to Verizon-provided services.

But will Verizon customers actually trust the carrier to manage billing data for services from its (Verizon's) competitors? Will Verizon treat TEM services the same as other services under its Customer Proprietary Network Information (CPNI) privacy policy?

In my opinion, TEM services are likely to become more prevalent and more of a standard practice for enterprise customers, even if carriers do clean up their billing act. ASP-based TEM services and in-house systems will function as a checkpoint for invoices, ensuring against errors that could easily return *en masse* if the system were not available□

Companies Mentioned In This Article

AICPA (www.aicpa.org)
Anchorpoint (www.anchorpoint.com)
ASC X12 committee (www.x12.org)
Asentinel (www.asentinel.com)
AT&T (www.sbc.com)
Avotus (www.avotus.com)
Control Point Solutions (www.controlpointsolutions.com)
Insight Invoice (www.invoiceinsight.com)
Martha Buyer (www.marthabuyer.com)
Primus Telecommunications Group (www.primustel.com)
ProfitLine, Inc. (www.profitline.com)
Qwest (www.qwest.com)
Razorsight (www.razorsight.com)
Rivermine (www.rivermine.com)
Sprint (www.sprint.com)
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