

# Your Exceptional TEM Program: Best Practices for Inventory Management Using TEM Metrics to Improve Performance



Telecom Expense Management  
Industry Association



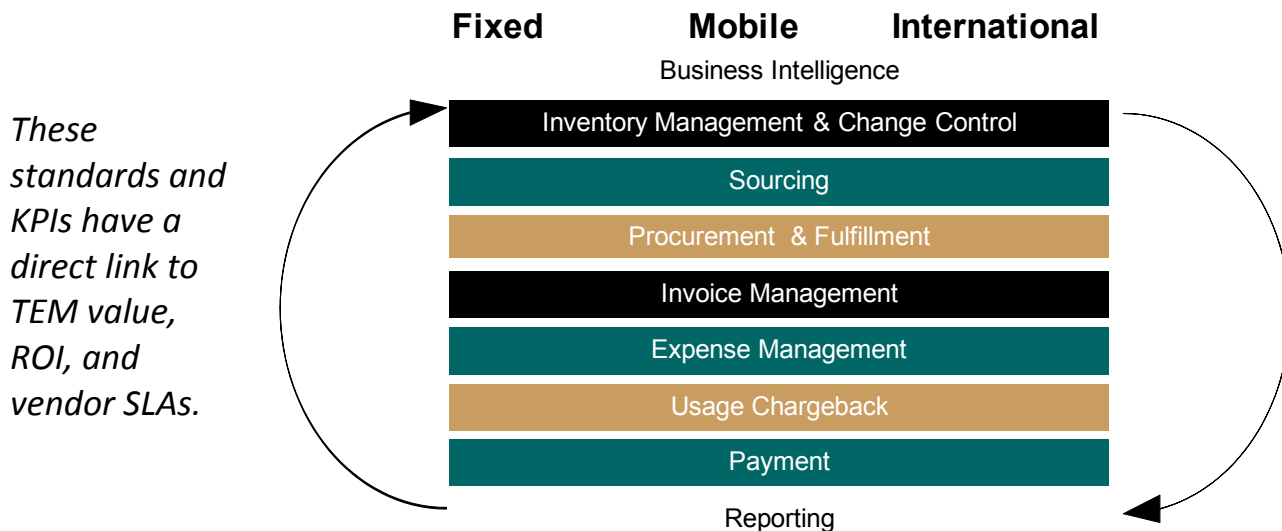
## Executive Summary

TEMIA is working to establish standards and Key Performance Indicators (KPIs) that can be used by managers and personnel performing operational roles at enterprises and suppliers. Customers need standards that can be used to help answer critical questions.

- **What are the critical factors that contribute to supplier performance and a better return on investment?**
- **How do my results compare to “best practice” metrics?**
- **What Service Level Agreements (SLAs) will drive results?**
- **How will I measure the success of the TEM solution?**

An effective Telecom Expense Management (TEM) program manages the full lifecycle of a telecom expense. It focuses on eight major service domains which include inventory management and change control, sourcing, procurement and fulfillment, invoice management, expense management (including validation and optimization), usage chargeback, payment, and reporting which provides business intelligence.

**Figure 1: TEM Components**



Enterprises do not have to take on the challenge of managing all these domains on their own, and they don't need to go to one firm to buy all of these solutions. There are pros and cons to consider in having a single TEM supplier that can perform all of these functions or using specialists for particular areas. Regardless of which approach an enterprise selects, an effective TEM program transitions decentralized processes into a unified approach to manage telecom expenses. TEM programs foster better communication among different groups and unification of telecom expense management functions to drive better results. The standards and KPIs must meet the criteria of openness and the measures must be quantifiable, universal, and consistent. These metrics align with business value and tie directly to program ROI.

This report provides explanations for performance measures and specific calculations for the inventory management domain. It explains the business goals addressed by this domain, things that can be learned from KPI performance standards, and actions to address positive or negative results from each metric.

There are two different approaches to implementing TEM programs. One approach focuses on building an inventory first before processing invoices. The other approach begins with processing the invoices and then building the inventory working from the invoices. TEMIA is not advocating one approach over the other. Both approaches have benefits.

For enterprises, unnecessary delays in selecting a TEM program waiting for a comprehensive inventory to be built before moving forward with TEM should be avoided. TEM programs can be used to maintain the inventory. In the time that it takes to build a comprehensive inventory, it is likely that there will be Move, Add, Change, and Disconnect (MACD) activity. The TEM program can track this activity while the inventory is being built to help ensure the final inventory is current. Also, if the enterprise delays selection of the TEM program or it waits for an inventory to be built, it will forfeit savings that could have been achieved while the inventory was being built. These savings opportunities may never be recovered.

TEM engagements vary considerably from one client to the next, and suppliers are not all the same. TEMIA's goal in publishing this information is to help educate the market by providing information for enterprises and suppliers to raise the performance of their TEM programs.

## I. Inventory Management and Change Control

Domain	Metric	Calculation	Service Level Agreement
Inventory Management and Change Control	<ul style="list-style-type: none"> <li>• Inventory Coverage</li> <li>• Inventory Recognition %</li> <li>• Inventory Reconciliation %</li> </ul>	<p>= # of Inventory Elements</p> <p>= # of Recognized Elements / # of Total Inventory Elements</p> <p>= # of Compliant inventory elements / # of Total Inventory Elements</p>	Threshold values for performance can establish SLA goals and payments for implementation, and steady state.

**A TEM inventory consists of inventory elements which are defined as any item that appears on a bill or Customer Service Record (CSR) for a line, circuit, mobile line, or service provided by a telecom service provider.** This is different from a comprehensive inventory which includes items that do not appear on bills. Inventory elements are used for sourcing, expense management functions of optimization and bill validation, and usage chargeback. Change control tracking is critical because enterprises' communications infrastructure is constantly changing with MACD activity for services and locations.

Wireless or mobile services are not represented on CSRs. Wireless inventories require additional information for optimization and other Wireless Expense Management (WEM) functions. The inventory items should include:

- Employee name or identification number
- Employee Status (active or no longer working for firm)
- Job role/function, department and general ledger code and cost center
- Employee Location, Region and/or Country
- Mobile phone number
- Mobile Service Provider
- Plan activation and contract expiration date
- Device model number
- International Mobile Equipment Identity (IMEI number)
- The eligibility date for new hardware that is subsidized or free
- Services: voice, data, international use
- How the bill is paid (direct by company, reimbursement, stipend)

Inventory management and change control metrics provide an objective quantifiable measure of the completeness and granularity of the service inventory. These metrics also provide a mechanism to manage inventory changes over time. Inventory elements correspond to a Monthly Recurring Cost (MRC), a unit of order, and/or a unit of billing for services or tangible inventory items. For many fixed carrier services, inventory elements are represented as Universal Service Order Codes (USOCs).

**The primary inventory management metrics are inventory reconciliation and inventory recognition.**

- **Inventory Elements** are the most granular unit of tracking and analyzing inventory data. The inventory element is any billed item that corresponds to a line, circuit, or service. The higher the number of inventory elements, the broader the scope and coverage of the inventory management domain.
- **Inventory Recognition** is the percentage of service inventory elements that are analyzed with sufficient detail and accuracy for invoice reconciliation and further analysis. A high percentage of inventory recognition is critical for inventory reconciliation.
- **Inventory Reconciliation** is expressed as the percentage of all inventory elements that are billed and recognized by the TEM application, and confirmed as belonging to your organization, in use, and validated with the contracts, tariffs, or other special pricing arrangements. A high reconciliation percentage is ideal. It enables automated reconciliation of inventory to service orders and bills. A low percentage of inventory reconciliation indicates potential errors in the service inventory that may be related to, data formatting issues, inventory maturity, or accuracy.

**Inventory recognition is the primary indicator of TEM performance and service level agreements for inventory management and change control.**

### **Collecting Inventory Data**

Telecom inventory is difficult to track because it includes decentralized inventory spread over multiple locations. In the U.S. each service order and change placed with a telecom carrier requires an update by the carrier to the Customer Records information System (CRIS). This in turn leads to updates in the CSR which lists the customer's records from the telecom carrier's database. As they make changes, most U.S. based carriers send the CSR which contain the service inventory. Inventory elements correspond to a Monthly Recurring Cost (MRC), a unit of order, and/or a unit of billing for services.

Some inventory items (mobile phone number, plan activation and contract expiration date, device model number, IMEI number, and new hardware eligibility date) can be requested from carriers (AT&T Wireless refers to it as a SMART Report other mobile carriers have different names for the report.) Other items are captured from the HR or Financial systems of the company.

**Carrier information should NOT be used as the authoritative source for inventory.** If there are no other data sources, carrier information may serve as a starting point, but it must be validated. Organizations need to consolidate the data from different carriers' billing information into an electronic database. Another challenge comes from the variations in the data formats and terms that each telecom carrier uses to identify services and other items on the bill. It is important to remember that building the inventory may take some time. Organizations should avoid unnecessary delays in selecting a TEM program while they wait for the inventory. These delays can prevent a company from realizing the savings from TEM.

### **Calculating the Number of Covered Inventory Elements**

One way to collect the total number of covered inventory elements would be to gather all the billing information and build a database of the service inventory. To complete the billing inventory the data needs to be validated with calling surveys, inventory verification. Another approach to building the inventory would be to rely on a TEM provider to provide this service as part of the scope of work. The ultimate goal is to secure an inventory with all of the inventory elements. The larger the inventory, the more complete it will be.

### **Calculating the Inventory Recognition Percentage**

An inventory recognition percentage is calculated by dividing the number of recognized elements by the number of covered inventory elements. Slight variations in data formats among different carriers must be reconciled to avoid problems with inventory recognition.

$$\text{Inventory Recognition Percentage} = \frac{\text{\# of Recognized Elements}}{\text{\# of Total Inventory Elements}}$$

## Calculating the Inventory Reconciliation Percentage

To calculate the inventory reconciliation percentage, the number of compliant (Compliant elements are confirmed as belonging to your organization, in use, and validated against contracts, tariffs, or other special pricing arrangements) elements is divided by the number of covered inventory elements. Low inventory recognition will reduce the validation results from reconciling the inventory with billing and special pricing in contracts and tariffs. Low scores for inventory recognition will result in an inability to complete the analysis, or an inability to analyze new billing due to MACD inventory changes. As a result, low inventory recognition rates drive low rates of inventory reconciliation and potentially less savings from identification of billing errors.

$$\text{Inventory Reconciliation Percentage} = \frac{\text{\# of Compliant Elements}}{\text{\# of Total Inventory Elements}}$$

## Using Inventory Metrics as a Diagnostic Tool

The key challenges include:

- Inability to capture inventory data and inventory updates over time
- Inadequate detail results due to coarse granularity or poor analysis
- Inability to analyze and confirm service inventory.

Low scores indicate the system is not tracking inventory elements. Missing inventory elements should be identified through building an inventory using billing records, CSRs, and mobile carrier data, (These first three items need to be validated to ensure the items are confirmed as belonging to your organization, in use, and validated with the contracts, tariffs, or other special pricing arrangements.) calling surveys, or physical inventories. If the recognition levels for inventories are low, the system may require updates to the inventory catalog or software upgrades. Low scores for inventory reconciliation show problems related to inventory coverage (Coverage is the total number of inventory elements captured by the TEM program.) and recognition. The program may also have issues recognizing carriers' billing or reconciling inventory items.

## Service Level Agreements (SLAs)

Threshold values for performance can establish service level agreements with goals that are shared with the project team. Thresholds can serve to establish payment milestones for work and determination of when the program is ready to move from pre-deployment testing to operational status. Ongoing project management should include use of automated reports that alert the enterprise and supplier on any issues that impact the SLAs.

Metrics can provide a diagnostic tool to identify areas for improvement for inventory management and change control. Project management and communications can focus on granular information about performance. Managers can understand the cause-and-effect relationships of enterprise activities and carrier processes that impact TEM domains and the ultimate ROI. One benefit of this approach includes opportunities to identify and correct enterprise activities and carrier processes that adversely impact performance.

### **Implementing TEM Metrics**

TEM metrics should be used for pre-planning, supplier selection, contracting, SLAs, project management, performance management, and communications. These metrics work equally well for programs that are managed through business process outsourcing, internally managed programs, licensed software installed behind a corporate firewall, or hosted software offerings. They can be applied evenly to suppliers' offerings, delivery, methods, process, and tools.

The next paper shall focus on inventory management. This series of papers is available from the TEMIA website (<http://tiny.cc/OvwpG>) and TEMIA members' websites. Adoption of TEM metrics by enterprises and suppliers will help the entire industry aligning customer expectations, performance, industry standards, and client satisfaction with communications that provide for continual improvements.

## About TEMIA

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The Telecom Expense Management Industry Association (TEMIA) was founded in late 2006 by the country's largest Telecom Expense Management (TEM) service providers that cumulatively manage \$31 billion of telecom and data spend. TEMIA's mission is to raise awareness and knowledge of the benefits of TEM solutions, to improve the quality and value of TEM solutions through the development and promotion of industry standards, and to cultivate shared industry knowledge among TEM providers, business partners, telecom service providers, and enterprise clients. For more information about TEMIA, please visit, <http://www.temia.org> or contact [info@temia.org](mailto:info@temia.org).



## About SPECTRUM

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One of the country's foremost telecommunications lifecycle management companies, Spectrum, Inc., helps its clients manage the entire telecommunications lifecycle. Based in Cincinnati, Spectrum's offerings include TrueVue<sup>®</sup>, its award-winning TEM solution, expert carrier-independent consulting, network design, management and optimization, contract negotiation, and proven customer support. For further information, please visit <http://www.3spectrum.com>.

