

The time has come

1/10/2001

By John Yolton

Collaborative asset management (CAM), not to be confused with computer aided manufacturing, is a term that was coined by AMR (American Manufacturing Research) in a recent report.¹

“Automating the outhouse”

In their report, AMR makes a bold statement: Of existing enterprise asset management (EAM) system users, “Less than 10% (of EAM users) have done more than automate their existing work processes.” This focus on implementing a system closely duplicating existing business practices is commonly referred to in the asset management software industry as “automating the outhouse.”

Conversely, 90% of current EAM system users have shown little or no improvements in the goal of optimizing asset utilization on which many of these systems were justified. Upper management expectations that the base performance of the company assets would improve following system implementation never materialize. In the end, the ROI is simply not there.

Why the problem?

Part of the problem lies with the providers of software applications. Some applications simply do not have the functionality to include data from or integrate to other systems concerning the performance of the asset in their system.

In the real world, when a troubleshooter is looking for solutions to a given adverse situation on an asset, all of the available data are reviewed. This review can include the asset’s condition based on data from various sources, such as inspection readings from a PM routine, or real time data from monitored field devices indicating flow, pressure, level, vibration, etc. To have the capability to view all of the relevant data about a particular asset or process greatly decreases the time to analyze while improving the quality of that analysis.

Another problem is with the users of the systems available today. Many of today’s users are stymied by the perceived inability of the newly implemented EAM system to closely duplicate their outmoded business practices. Their frustration stemming from a perception that the system is not delivering further compounds the failure to use the system effectively.

As suggested by the AMR report, the result of this is “billions of dollars of ...benefits” never realized.

What is CAM?

CAM is the process of disparate resources collaborating to analyze data and suggest actions to optimize asset performance. Data in the hands of talented troubleshooters can lead to innovative corrections and improvements. Too often in today’s manufacturing environment the problem solver is expected to be the shift mechanic, or the shift operator who is constantly battling the recurring problem. In many cases, however, the best troubleshooter may not reside at the manufacturing site.

The best resource for a given situation might be:

- The equipment vendor’s designer; or it might be a:
- Consulting engineer
- Management consultant

- Training advisor
- Process control systems provider
- Machine diagnostics technician
- Mill lubricant supplier.

Given the same data for a situation separately, they might all arrive at different conclusions based on their perceptions and experience. Given the same data and an opportunity to collaborate on a solution, the potential for resolution is increased tenfold.

In the past, CAM was practiced but “collaboration” was severely limited by available technology. In many cases, a problem occurring after hours wasn’t widely known until the following morning when other problem-solving resources arrived for work. The process was technology limited. Data and information distribution was limited to phone calls and faxes. Some operations have a follow-through process for recurring problems where specific individuals are assigned the task of following a problem through its life cycle to resolution—an “upteam,” for example. Under this process, the introduction of outside “expert” resources to problem resolution may be haphazard and inconsistent. Access to data pertinent to the problem can be cumbersome and time consuming.

CAM then is the collaboration among suppliers of equipment and services and their client with a common objective of optimizing the manufacturing process (see diagram below). It is problem solving via the Internet using mill data, and it very likely will include e-commerce transactions via the Internet.

Supporting technology

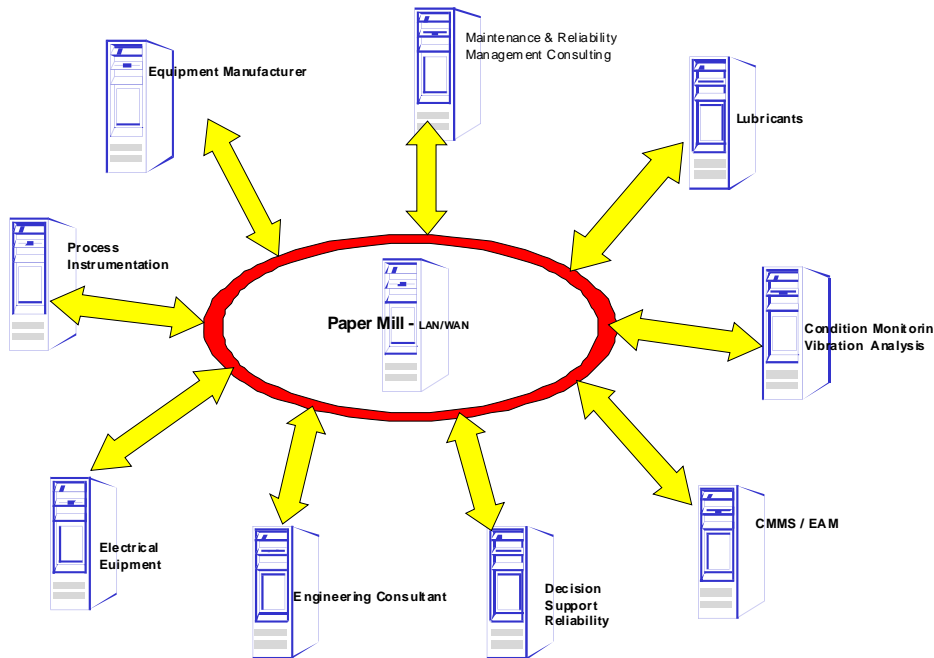
Today, information technology has improved to the point that information can be shared almost instantaneously with anyone with predetermined and proper security clearance. The Internet has opened the world to shared information.

Information, however, which can be accessed easily by the collaborative resources, should be archived and accessed within a common database and application. The data might include equipment design documents, histories for maintenance and reliability activities, stores and purchasing transactions, operating and maintenance costs data, labor skills and training records, inspection records, asset performance histories, current operating parameters, past operating parameters, etc. Data to be accessed are limited only to imagination in today’s open architecture world.

Data pertinent to the problem may be insufficient, or worse, incorrect.

Information sources include:

- Client
- Consultants - process, management, engineering
- EAM - data collection, archiving, transactions
- OEM - data, drawings, expertise
- Contractors - resources, expertise
- Process Control - data, problem solving
- e-Procurement - supply chain management.



The service and equipment suppliers can benefit from this arrangement by providing an additional service capability that will further differentiate their company from their competition, enabling penetration into other markets. Further, through improvements in collaboration, cost savings can be achieved by reducing redundancy between and among the “partners.” Examples can be inventories, document centers, procurement efforts, service shops and resources, contract management, and even business development.

Summary

The diagram above, very simplistic, illustrates the concept.

An alert goes out from the mill. Preferred “collaborative” partners, local and global, have access with security, to the mill’s asset management database, through a common client interface allowing each to involve themselves as requested in the mill’s processes and operations. The mill establishes the database security preference for each “collaborator.” An explanation of the issue and access to pertinent data within the mill’s asset database is distributed from the server to the “network” of collaborators via their client.

Even a “chat room” can be established for exchanges of thoughts, ideas, and opinions.

Reliability issues plaguing the mill operations can be dealt with expeditiously through collaboration among interested parties. Each brings unique, first hand, experienced expertise to bear upon the issue at hand.

The technology exists. The time has come.

¹ AMR Outlook: The next wave – Collaborative Asset Management (CAM). AMR Research Alert on Manufacturing for Oct. 6, 2000.