

Fleet Optimization with IBM Maximo for Transportation



Highlights

- *Integrates IBM Maximo® for Transportation with IBM Fleet Optimization solutions*
- *Offers fleet managers a holistic view of asset performance, automating common processes*
- *Optimizes asset life-cycle management to achieve a high return on investment (ROI)*
- *Leverages built-in best practices to improve productivity*
- *Can result in better up-time, cost controls, improved vehicle and cargo diagnostics, enhanced communication options and easier regulatory compliance*

Fleet Management initially was a static process. Transportation companies were largely in the dark with regards to the exact whereabouts of their assets. This was true not only when those assets were in service but also when they were simply parked and not immediately visible to the equipment management team. Companies

relied on physical inventories and the conscientiousness of fleet operators for reliable fleet data usually manually collected and entered into a simple application

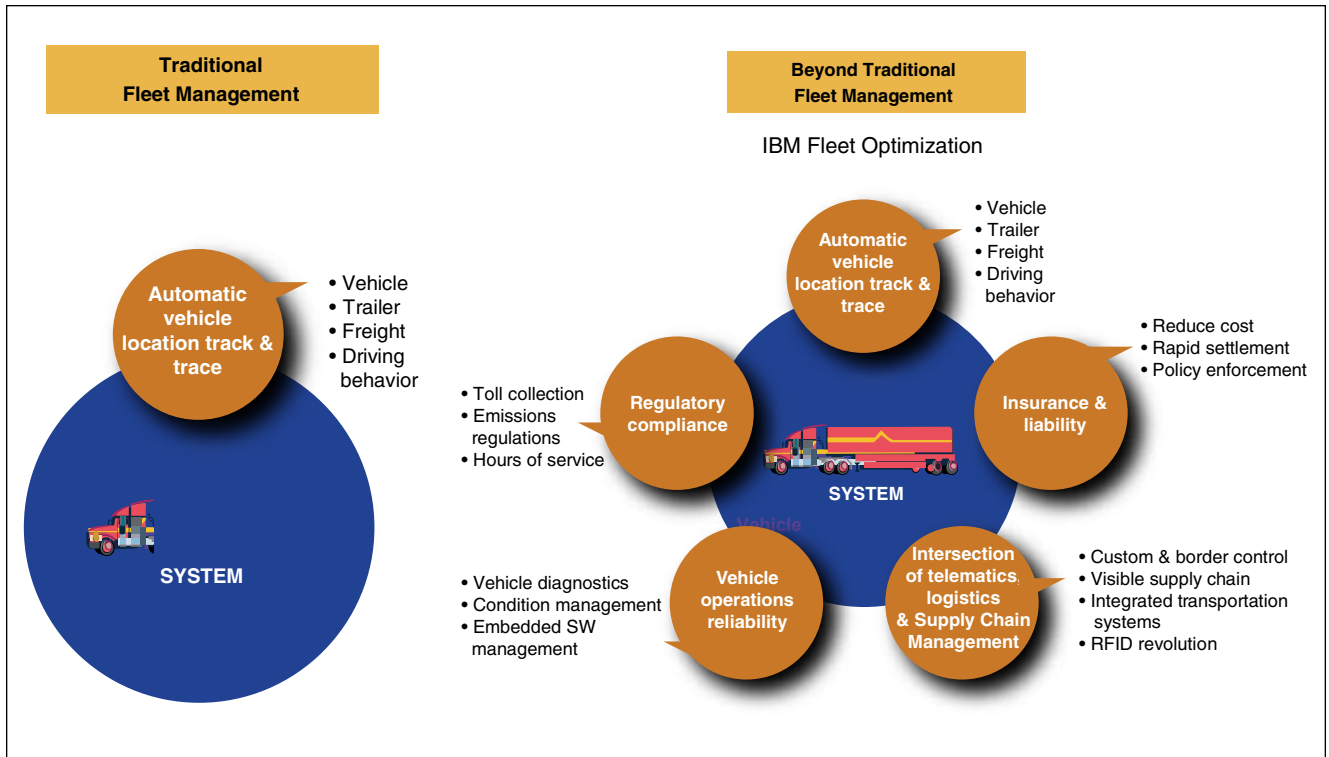
the size and costs associated with the solution decreased. The overall result was better Fleet Management which, in turn, led to greater efficiencies and reduced costs.

Enter Fleet Management solutions

Early Fleet Management solutions typically employed a locator unit in the truck with a radio link back to headquarters. Now, at least, the company knew the general location of fleet assets. As these technologies evolved, their precision increased and

Fleet Optimization

IBM has a rich history in delivering Telematics and vehicle monitoring solutions for clients with wide-ranging sets of capabilities. Building upon



and extending that expertise, IBM now offers the next step in Fleet Management for transportation carriers and other owners of truck and auto fleets. This step – and it is a significant advance – is called *Fleet Optimization*.

IBM Fleet Optimization solutions go beyond simple information about the location of a fleet asset to offer a wealth of business analytics that integrate the location and condition of a vehicle or truck and its cargo into a company's Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), Supply Chain Management (SCM), Enterprise Asset Management (EAM) and billing systems. This enriched knowledge, in turn, leads to even greater efficiencies and savings and potentially to new opportunities for business process innovation.

Capabilities

An IBM Fleet Optimization solution can include the following features:

Fleet reporting for vehicle, trailer, freight and driver

Global positioning (GPS) technology delivers exact knowledge of the location of key assets at any time. This information enhances the performance of dispatchers, work schedulers, maintenance personnel, and those responsible for security and logistics. GPS also enables mapping for greater efficiency and the possibility of geofence alerts that indicate when a vehicle goes off route.

In addition, GPS information can lead to greater customer satisfaction because customers know where their products are and when they will arrive. With time, location, vehicle ID, speed and mileage automatically logged, there is little dispute about when a delivery has arrived or left. Automated data of this sort can also be integrated into billing systems for faster invoicing.

Radio frequency identification (RFID) technology

The integration of RFID communications can introduce cargo data into the solution. This is a further step to real-time freight tracking and delivery status, reduced inventory losses and improved customer service capabilities.

Built-in vehicle diagnostics

Vehicle maintenance schedules can be tracked electronically based on the mileage reported automatically by the vehicle. This means trucks and cars can be scheduled for maintenance in an orderly fashion with technicians able to plan rather than react to breakdowns.

Accessory diagnostic systems can indicate the status of the trailer, the goods in transport, and the condition of the door locks, windows, lights and refrigeration. For efficiency and safety, diagnostics can also monitor how the vehicle is being driven. Insurance companies can provide discounts if theft prevention and stolen vehicle recovery systems are part of the fleet.

Automatically generated driver logs and fuel tax reporting

Information that drivers traditionally had to record manually can be automated for greater accuracy and faster processing times.

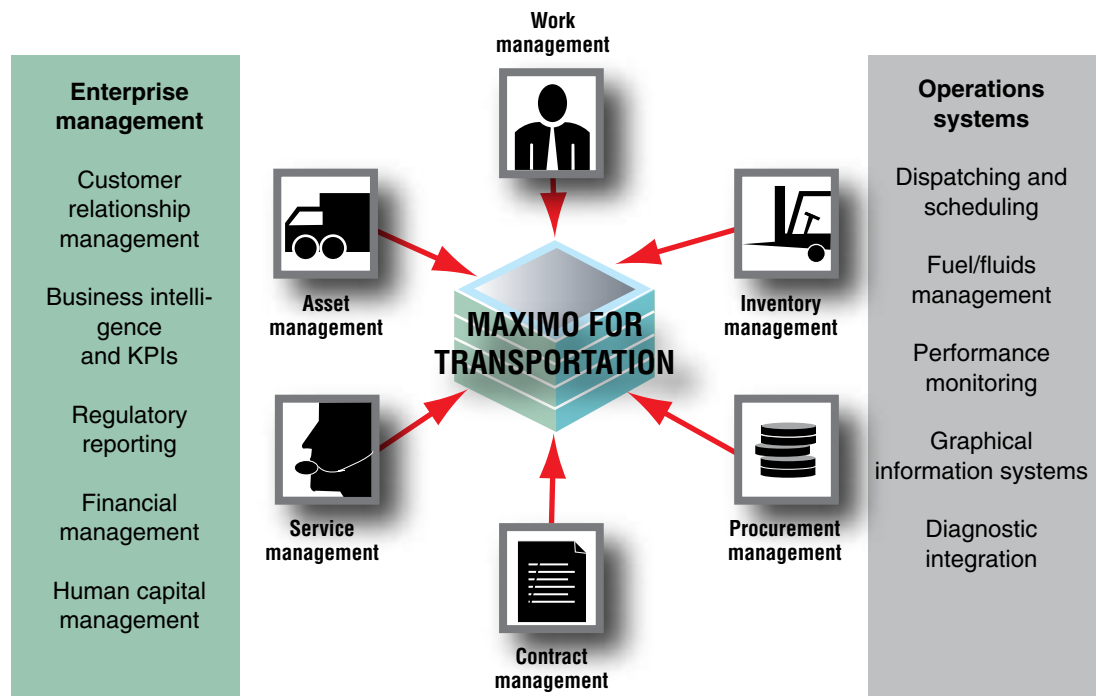
Communication options

In addition to data-only options, the solution can also include facilities for voice, text to speech and voice

recognition over cellular connections. A wide variety of wireless technology integrations – 802.11, handheld terminals, cameras, laptops, mag stripe readers and signature capture applications – can also be integrated into the solution.

Table 1. Fleet Optimization scenarios, return on investment, and benefits		
Business scenarios	Key ROI* benefits	Benefits
Knowing vehicle locations at all times	Awareness, improved customer service	-Accuracy of records improved
Reduced maintenance costs	5% reduction in costs, less unexpected downtime	-Better workload management -Provides up-to-the-minute status
Reduced fuel consumption	14% reduction in consumption savings (based on customer reports that an average of 2.2 hours in a 10 hour shift are idling)	-Eliminates calling drivers for their locations -Allows dispatcher to predict when a vehicle will be at a customer's stop
Better driver productivity	30% increase in productivity; drop times reduced from 40 to 25 minutes	-Less time wasted checking each vehicle -Shorter downtime
Improved customer satisfaction with on-time arrivals	94% reduction in customer queries	-Less time spent on paperwork -Eliminates re-keying of information
Enhanced driver safety	High priority, improved employee satisfaction	-Avoids traffic delays and reduces distances traveled
Mitigate risks that reduce insurance costs	Reduction or no shrinkage; reduced fraud; lower premiums based on driving behavior	-Minimizes billing disputes -Reduces queries from customers
Loss prevention and recovery of missing assets, both vehicle and cargo	5 to 20% reduction on premiums	-Increases customer referrals -Fewer service emergencies
Monitoring cargo condition	10% loss reduction; 10% spoilage reduction	-Improved driver satisfaction
Tracking the location of the trailer	Minimize loss of trailers	-Fewer vehicles and cargoes stolen -Reduced insurance rates
* ROI based on a compilation of Fleet Management research reports, white papers, and product literature.		-Less cargo spoilage and loss -Trailer losses minimized -Verify time cards against vehicle trip records -Resolve disputes and claims against trucks, driving records

IBM Maximo for Transportation



IBM Maximo for Transportation

Maximo for Transportation, formerly from MRO Software but now an IBM offering, allows managers to view asset-related information and asset performance from a single repository to achieve a holistic view. This can

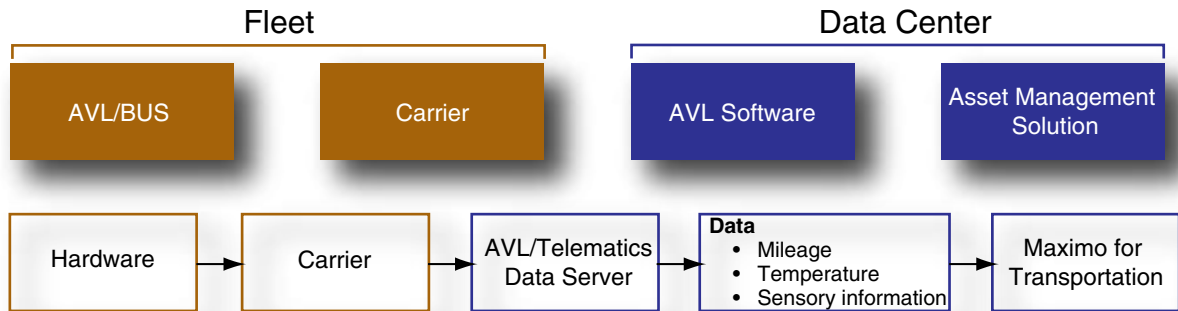
help lower costs by facilitating and automating common processes to deliver the following benefits:

- *Better visibility and control of assets*
- *Higher levels of asset performance*
- *Improved accountability and utilization*
- *Standardized and consolidated business processes*
- *Ability to manage the demands of complex supply chains*

- *Standardizing and sharing data*
- *Monitoring service providers' driving*

Maximo for Transportation also address the stringent requirements of regulatory bodies, while adhering to industry-standard coding structures, such as VMRS. Best practices are built into the solution to help extend asset

Fleet Optimization



Advantages for Operators

- 1) Passive information gathering
 - Non-intrusive to drivers
- 2) Reduced administrative tasks
 - Lower costs
- 3) Automatic mileage reporting
 - Enhanced application integration
- 4) Optimized maintenance scheduling
 - Improved asset utilization

Advantages for Operations and Maintenance

- 1) Real-time vehicle diagnostic data, e.g., mileage, fuel
 - Increased up-time
 - Increased maintenance effectiveness
- 2) Emergency alert information e.g., engine temperature above range
 - Faster problem recognition and resolution
 - √Check Engine light on
 - √Immediate notification
- 3) Outside device monitoring systems, e.g., fare box
 - Increased application flexibility

life, optimize spare parts management, reduce road calls and incidents, and increase planned maintenance.

The bottom line: better up-time for critical revenue-generating assets; cost controls for acquiring, maintaining

and disposing of assets; and greater shareholder value.

Maximo for Transportation consists of six key management disciplines and integrates with most business systems, helping users work comfortably and productively. Significant features include:

- *Automated alerts to notify technicians that maintenance is due or a warranty about to expire*
- *Meter history and adjustments to record out-of-sequence readings, adjustments to previous readings, and track a component's meter history*

- *Transportation reports and key performance indicators (KPIs) that can analyze trends and optimize productivity*
- *Vehicle data and specifications for information that is configurable by asset type, such as repair location and meter input on work order or fuel type.*

Enhanced Fleet Optimization with IBM Maximo for Transportation

More than 500 transportation organizations globally rely on Maximo Solutions to help optimize their asset management departments, decrease the amount of time it takes to schedule and assign work, monitor and manage their efforts to meet safety and quality requirements, and reduce administrative time.

By integrating Fleet Asset Management and AVL/Telematics technologies, IBM now provides real-time vehicle condition monitoring data (mileage, fuel, temperature ranges, tire pressure alerts, or any vehicle information that is passed through the vehicle bus) which is combined with optimized scheduling algorithms, to provide an on demand maintenance capability. The solution not only extends the vehicle life cycle but ensures that it is most effectively deployed throughout this period to maximize the return on investment.

Choose IBM

IBM has a proven track record in Fleet Management and Optimization. We invest some \$5-6 billion annually in research and development, and we are noted for our global reach and innovative solutions. As a well-established player in the industry, we are committed to long-term relationships, and our Business Partners are the best in the business. The IBM Fleet Optimization and

Maximo for Transportation solution is an open architecture solution based on Java,® is J2EE certified, and is fully enabled for a Service Oriented Architecture (SOA). An IBM foundation ensures that years from now the solution won't become outdated; the solution can be upgraded rather than replaced. Your company's investment is future-proofed with an IBM solution.

For more information

For more information about how you can better manage your fleet with an IBM Maximo for Transportation Fleet Optimization solution, please contact your IBM representative or visit:

ibm.com/solutions/sensors



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