DIFFERENTIAL CALCULUS DEFINES an inflection point as a point on a curve where the curvature changes sign. Andy Grove, former CEO of Intel, pointed to the concept in his 1996 book, “Only the Paranoid Survive,” by identifying such points as a time when companies must transform themselves overnight or risk becoming irrelevant. New competitors, a change in regulations or a seemingly modest change in technology all can cause inflection points.

The intermodal industry experienced an inflection point in 2010, as growth in volume resumed. We also may be at one of Grove’s inflection points, where success — and survival — requires discarding traditional ways of doing business.

The liner shipping industry largely transformed itself most recently by withholding capacity (to match demand) and slow-steaming (to reduce fuel consumption). Some consider these actions a new strategic paradigm, while others fear these were practices born out of desperation.

Success will only be measurable over time. But it’s reasonable to assume if lines start adding capacity (and hope none of their competitors do the same), the result again will be overcapacity and falling rates.

Many shippers believe slow-steaming was a rate increase in disguise, resulting in higher supply chain costs. Some observers wonder whether select strings will return to normal service speeds, with carriers attempting to charge for premium service.

Although airlines charge different fares for different routes and transit times between the same points, ocean carriers do not. If some ocean carriers adopt a similar variable pricing approach, it would represent the biggest commercial change since the demise of conferences and initiation of confidential contracting. It also would demonstrate they have achieved a new breakthrough in the level of IT sophistication.

Pricing based on transit also could transform the debate on routing. Speed and fuel prices interact in a strange calculus for “eastern” destinations to determine customer preference between all-water and intermodal routings. The math is fairly complicated because the customers and carriers have different cost functions. That is, a line views it cheaper to route a Hong Kong-Chicago container by all-water through the East Coast, but the importer prefers a West Coast routing to reduce transit time.

The 2014 expansion of the Panama Canal heightens the stakes throughout the intermodal industry. Will inland destinations currently served over the West Coast — Chicago and Dallas, for example — become candidates for reverse-inland-point-intermodal movement over the East Coast? Or, will destinations such as Atlanta and Harrisburg currently served by all-water routes revert to West Coast transloading?

In the former, the demarcation line would continue its eastward movement; the latter, however, represents a reversal.

International conversion into domestic moves is subject to equipment balance and supply. For example, given current market trends, domestic equipment is in short supply in Southern California. Increased transloading might require empty repositioning to ensure sufficient demand. Meanwhile, different international gateways — the Pacific Northwest and East Coast ports, for example — might grow because of their ample equipment supply.

The domestic intermodal industry also is dealing with larger unknowns. The Federal Motor Carrier Safety Administration is implementing two game-changing regulations, new hours-of-service regulations and the CSA 2010 safety initiative.

New HOS regulations will reduce the amount of time drivers are allowed to work. This is expected to lead to a shortage of drivers, which should increase motor carrier rates and make intermodal more attractive. This could benefit intermodal, but only if terminal throughput remains sufficiently fluid, so drivers aren’t burning hours waiting in line.

The CSA 2010 initiative will result in a quantitative assessment of motor carriers and drivers by the federal government. The outcomes are unknown for now: Will shippers stop doing business with low-scoring carriers? Will freight brokers stop hiring low-scoring carriers? This also could benefit intermodal, but only if drayage carriers maintain their driver base and safety ratings.

Along with these changes in supply, we may see a restructuring on the demand side.

Wal-Mart has developed a program in which the world’s largest retailer will take possession of its purchases at its suppliers’ facilities. Other major shippers are likely to pursue such a cost advantage, reducing the number of shipping customers and greatly increasing the remaining shippers’ volume. It will be interesting to see if traditional economies of scale — more volume equals lower rates — continue to apply.

Some inflection points become obvious only well after the fact, Grove points out in his book. That may be true for intermodal, but I think we’ll see their impact in the next 12 to 18 months.