

*Situation, Assessment and Action Plan
For
XX COMPANY, LLC*

CIO Services, LLC

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Don Curt

Situation

Rail Supply Chain Visibility

- Customers desire a single point of interface for rail car and rail goods inventory information.
- Tracking of inventory needed regardless of the carrier.
- Carriers and their customers want to view across the entire transportation network, facilitating efficiencies in operations and superior customer service.
- Some industry consolidation. Enables consolidation of multi carrier information and increases railcars under a common management system.

Acquisitions & Mergers

- Acquisitions and mergers taking place in the rail tracking industry supporting cross carrier visibility, and to gain customers - increasing the number of rail cars under common management.
- XX COMPANY has participated in this M&A activity as recently as mid 2005.

(Situation Cont.)

Globalization

- Expansion by some US based companies into Europe and Canada to gain share of cars under management and to support global customer's needs.
- XX COMPANY is part of this trend as evidenced by acquisition of the XXX firm

Web-Centric, Web Services & Object Oriented Software

- Across all industries the requirements for rapid software development, reusable code, ease of integration and open easily accessed applications has driven the software engineering processes of highly responsive organizations to Object Oriented software development, web services and web-based applications.
- The supply-chain software industry is no exception.
- Software vendors without adequate, modern processes will not be able to compete.

(Situation Cont.)

Competition

- There are hundreds of capable supply chain software vendors of varying sizes.
- Large suppliers claim their software is adaptable to all supply-chain industry scenarios.
- Smaller software and service suppliers concentrate on specific industries' needs, providing a focused expertise and strive to be the hub of that specific industry.
- XX COMPANY is in this later category.

Boxcar Shipping

- Boxcar shipment volume has declined for many years.
- The lack of total inventory visibility is a key reason.
- Without visibility, customer service, such as providing accurate arrival times and sku replenishment schedules, has been extremely poor.
- The industry sees some signs of comeback and is to a large extent banking on technology to aid in the resolution of its problems.

Assessment

- Rail visibility focus –
 - XX COMPANY has concentrated on a piece of the overall supply-chain space.
 - Success is based on maintaining specific segment knowledge and capturing information across the entire rail network.
 - Developed software must support customization to the industry while at the same time be open for ease of connectivity and integration with other customer or industry systems.
 - Web-based, standards-based architectures must be used.
- Clear Product Strategy –
 - IT along with the total business must clearly understand the product strategy.
 - A visual software model encompassing all supply-chain applications should exist.
 - An industry-standard Unified Modeling Language (UML) tool should be used to model both the business and the software architecture.
 - Model provides an unambiguous specification of what the software does, how it interrelates, and supports later steps in the software engineering process.
 - Model also supports rapid software development and modification.

(Assessment Cont.)

- Merger Synergies –
 - XX COMPANY has performed very recent mergers and acquisitions in support of its business strategy.
 - The degree to which Information Technology can be rapidly and effectively merged, consolidated or rationalized is critical to successful business integration.
 - IT elements that need to be addressed include Software engineering processes, Infrastructure consolidation, IT operations standardization, Distributed organization management and Internal (backroom) IT systems integration.
 - A formal IT organizational structure should evolve.

- Globalization –
 - XX COMPANY has activities in Europe and has recently expanded in Canada.
 - Customer requirements will differ across the world. Superior IT processes are universal.
 - A goal to use common IT processes in all locations should be set.
 - Drive best practices of code reuse, modular and distributed development, infrastructure standardization and operations efficiencies.

(Assessment Cont.)

- State-of-the-art Software Development Methodology –
 - Competition in the supply-chain software field are effectively utilizing such methodologies
 - To achieve speed, integration, efficiency, accuracy, quality, cost, frequent customization and distributed development, a formal software engineering methodology, geared towards object-oriented development & web services should be in place.
 - Industry-standard, customizable, off-the-shelf methodologies are available.
 - One example is the Rational Unified Process, which addresses virtually all aspects of the software engineering process from initial visual modeling to configuration management after implementation.
 - Best practices are built into the methodology.

- Support industry growth through forums etc. –
 - Industry growth is relying to a degree on technology.
 - To support this growth and to further establish leadership in the rail space, participation and leadership in forums is essential.
 - XX COMPANY has been doing this through its involvement with the XXX Association industry Boxcar pilot initiative.

Action Plan

Based on the situation and assessment, the following action plan is recommended.

I. Product Strategy

Visual Modeling		Immediately
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If a visual model of existing developed software does not exist, begin by utilizing UML software for new developments and/or reverse engineering existing applications into a visual model. The visual model becomes the basis of all product development or enhancement for both the business and IT. One model for all software from any XX COMPANY component/location.

II. Merger & Acquisition Support

Infrastructure Team		Immediately
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Establish a focused infrastructure team, consisting of members from each distributed location, with the goal of developing a formal, project-management-based plan to execute the rationalization of infrastructure. Address areas of servers, PCs, WAN, LANs, phones, printers, faxes, and all other hardware technology. Validate adequacy of infrastructure to support the business and application plan. Establish a standard environment. Establish Infrastructure processes for procurement, asset management and repair/support.

Operations Team		Immediately
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An operations team to focus on developing and implementing common operating procedures across the company. Areas to be addressed include, backup and recovery, help desk/user support, release/configuration management, application and infrastructure monitoring, business continuity and maintenance. Goal is to provide adequate production support and business continuity at minimum cost.

Internal Systems Team		Immediately
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To the extent that internal applications have not been integrated, merged or rationalized, this team consists of business and IT personnel from each location to layout the vision and implementation plan for internal systems. Establish formal project management process.

III. Software Engineering

Process Standardization		Now - Ongoing
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Establish a vision for the overall software engineering framework across all XX COMPANY components. Select one of the off-the-shelf methodologies such as the Rational Unified Process (RUP), which builds best practices into customizable software and processes that the organization can follow. Once the overall framework is agreed to, an incremental integration plan is established. Such a large change cannot be implemented all at once. The following are possible incremental steps.

Object Oriented Design Model		2Mo. – 6 Mo.
<p>Expand the UML model of the business and software to include specifics of actual OO architecture. Take the visual requirements and codify them into a detailed software architecture and design. Gives developers across all locations an understanding of, and access to, the common design artifacts.</p>		
Roles (artifact owners)		4Mo. – 7Mo.
<p>A methodology like RUP builds software artifacts along the way like requirements lists, objects, test plans, etc. Define roles by assigning an owner to each artifact. Roles become the basis of the organizational design.</p>		
Independent, Distributed Development		8 Mo.
<p>Assign personnel to established roles. Common processes with clear roles, and with a clear software framework and design methodology, allow for distributed developers to work independently on the same code. It provides for code reusability between modules, projects or applications. The issues of physical separation of personnel are greatly reduced and efficiencies can be achieved that translate into more quickly developed, lower cost applications.</p>		

IV. IT Organization Design

Formalize Organization		Now – 8Mo.
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As part of implementing the formal methodology and software framework, clear roles are established. The evolution of the unified process is a highly functional organization design. Additionally, Operations and Infrastructure teams' work will establish roles out of process formalization.

V. Industry Leadership in IT

Industry Forums		On-going
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Support the strategy of XX COMPANY to be a leader across the rail tracking space; by assuring that the IT organization is also viewed as providing leadership. Proactively manage involvement in industry sponsored IT forums. Establish specific roles.