

## BIOGRAPHICAL INFORMATION

Sam Newman  
Director, GeoSpatial Resource Management  
Cobb EMC

### Specific Responsibilities

Joined Cobb EMC in 1989. Responsible for the management and direction of AM/FM/GIS, outage and mobile workforce management and work management.

### Past Experience

Fifteen years of past experience at Cobb EMC includes:

- Management of Cobb EMC's Outage, Mobile Workforce Management, AM/FM/GIS, and Work Management Systems.
- Data quality assurance
- Software project management, design, and implementation

Experience in US Air Force, 1979 – 1983, Logistics Management

### Educational Information

University of Massachusetts, Bachelor of Science in Management, with emphasis in Information Systems and Operations Management

### Professional Memberships

GITA Southeast, Chapter Past President  
GITA National, Education Committee

## BIOGRAPHICAL INFORMATION

Carolyn Bakke  
Director, GeoSpatial Electric Solutions  
Intergraph Corporation

### Specific Responsibilities

Joined Intergraph Utilities in 1992. Responsible for industry consulting and direction of Intergraph solutions for GIS, design, outage and mobile workforce management.

### Past Experience

Twelve years of past experience at Intergraph includes:

- Consulting, technical marketing, and management for Intergraph's dispatch, outage, mobile computing and GIS products for utilities.
- Product planning and GUI development
- Software project management, design, and implementation

Experience in software development, project management, marketing, and industry consulting, coupled with her masters-level studies in the human factors of software, provide Carolyn with a strong history in relating utility business problems to available technical alternatives.

### Educational Information

Mississippi State University, Master of Science, Computer Science  
Mississippi State University, Bachelor of Science, Computer Science

### Professional Memberships

GITA  
DistribuTECH Advisory Committee

## BIOGRAPHICAL INFORMATION

Brent Dreher  
Partner  
Capstone

### Specific Responsibilities

Brent Dreher is a Partner with Capstone Consulting Partners. Capstone is a specialized consulting firm focusing on the application of Information Technology.

### Past Experience

Brent has nearly 20 years of utility industry consulting, professional services, and application software implementation experience. He has led client engagements in customer care and billing, work & asset management, GIS, SCADA, and ERP.

### Educational Information

Lambuth University, Bachelor of Arts, Mathematics  
Vanderbilt University, Master of Business Administration

### Professional Memberships

GITA

## RE-ENGINEERING: ENGINEERING AND OPERATIONS

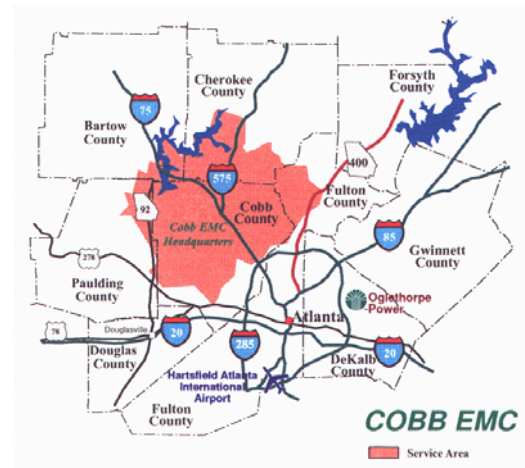
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## INTRODUCING COBB ENERGY

Formed in 1938, Cobb Electric Membership Corporation started as an electric utility with 489 residential members and 14 commercial accounts. Today, it distributes electricity to more than 177,000 residential and commercial customers. Cobb EMC is the largest of Georgia's 42 electric membership corporations. The utility's territory covers 415 square miles, with more than 90 percent in residential customers, and has an annual growth rate of 3.5 to 4.0 percent.



# ENTERPRISE INTEGRATION

## Current State

Cobb's business applications currently reside in two separate data center locations. Their Engineering & Operations' systems reside on an Oracle/NT platform while all of their remaining business applications reside on an AS/400 platform in a separate data center. This has created two separate support and maintenance infrastructures, leading to inefficiencies with managing resources' skills and their allocation.

Cobb's business applications were implemented and integrated over time using various integration methods and standards. This resulted in numerous point-to-point interfaces and the inability to have one 'owning' location for any data. The same data may not reconcile between different applications as they have gotten 'out of synch' over time. Data has been 're-keyed' to manually integrate applications where no integration was possible. Shadow systems have been created in Excel to facilitate data reporting and access needs. As a result of all of these issues, Cobb's reporting infrastructure has suffered since their personnel do not have timely access to reliable information across the Company. Notice that the data center for the engineering is completely isolated from the rest of the enterprise.

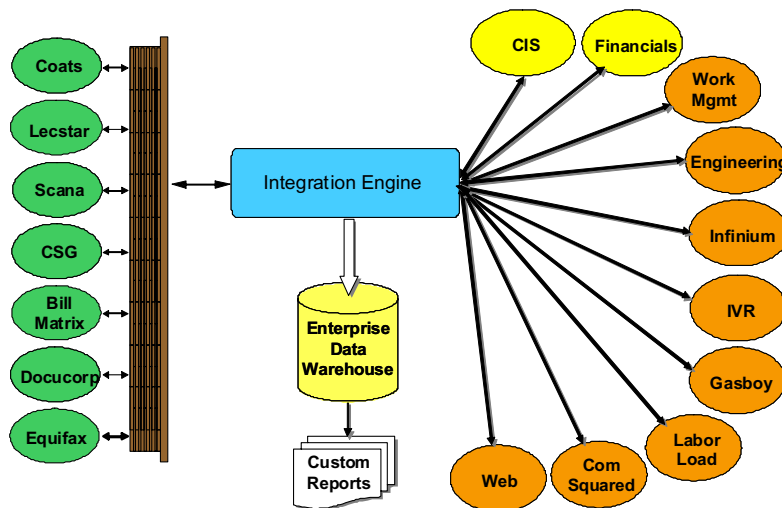


## Future State

Cobb's new business applications are being implemented in conjunction with an initiative to standardize Cobb's corporate integration methods and tools. Cobb's Information Technology group is implementing an Enterprise Application Integration (EAI) solution using Sybase's Integration Orchestrator and IBM's MQ Series products. The EAI solution will serve as an 'integration broker' for all of Cobb's business applications. This will allow Cobb's two separate 'data centers' to now be seamlessly integrated and act as one enterprise-wide solution.

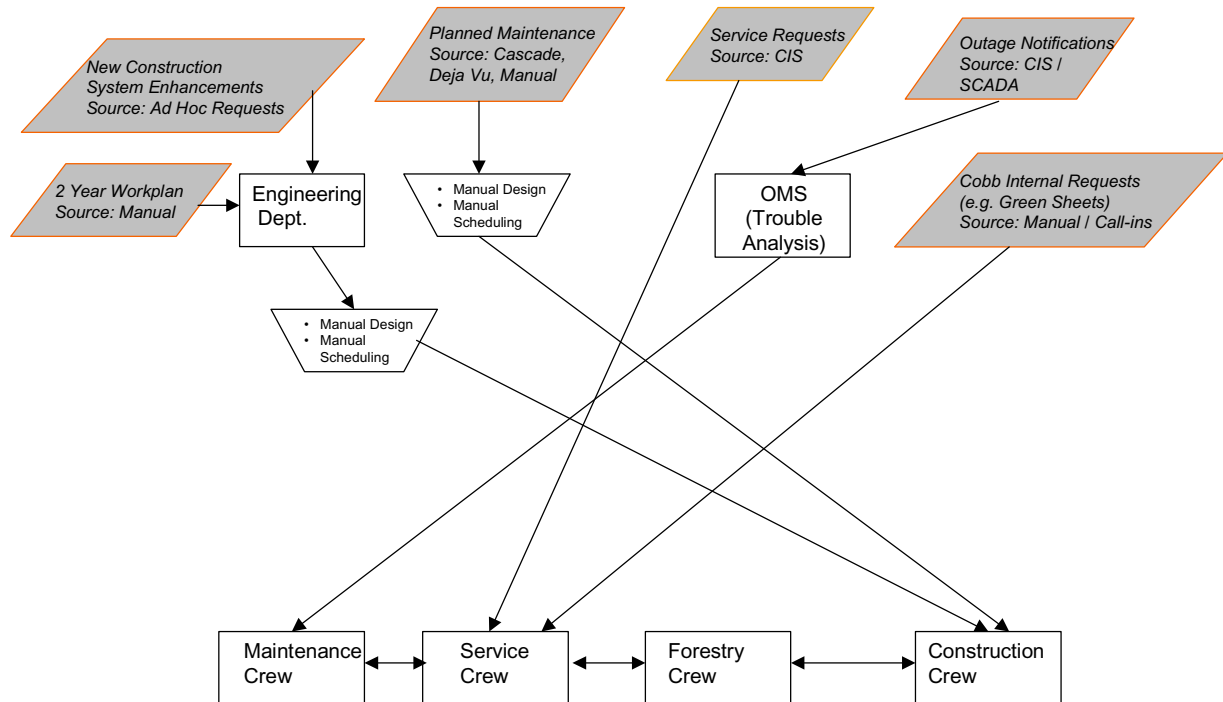
The benefits to Cobb from having one fully-integrated solution include:

- Easier to maintain interfaces as applications are upgraded due to 'middleware' connection
- Real-time integration of data is possible
- Improves data integrity by creating just one 'owner' of the source data being interfaced
- Improves reporting capabilities by providing accurate, timely information



## WORKFLOW IN ENGINEERING & OPERATIONS

### Current State

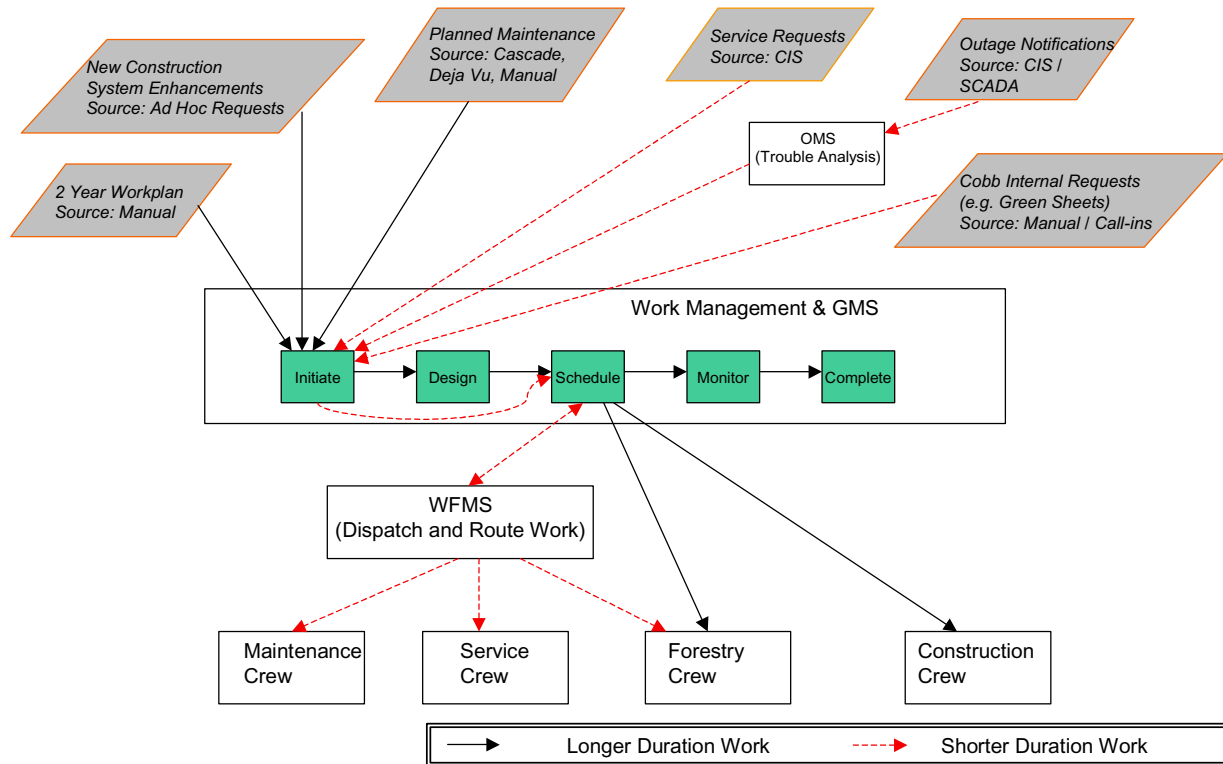


In the figure above, the gray shaded boxes are the initiators of work. Notice there is no central point by which the work is captured or managed. Some work requires engineering, and others go straight to the field. This provides lots of opportunities for the ball to be dropped and information to be lost. As a result, extra effort is required to maintain Cobb EMC's excellence in customer service.

Today it's a heavily manual process – Staking Sheets are manually drawn; manually keyed into Orcom Work Order Costing system; manually dispatched to the field. Mapping then updates final designs into the AM/FM/GIS. Currently, one area is automated – UG SUBDIVISIONS. Future goal is to expand this automation for all job types. Outage Management (OMS) was recently automated to allow electronic assignment, dispatch, and submission of trouble tickets.

## Future State

Notice the new one central point by which all work is captured and initiated.



In the future, non-designed jobs will be scheduled directly. Jobs requiring design will be managed in the AM/FM/GIS. As can see, AM/FM/GIS becomes critical to the Design process.

Again, today designs are manually done to produce staking sheets, and separately keyed into a Work Order Costing System. In the future, AM/FM/GIS will be the central point for job creation and design, with the design information being passed electronically to the various ERP systems. The Field Order Closure can automatically be done within certain tolerances, with exceptions handled manually.

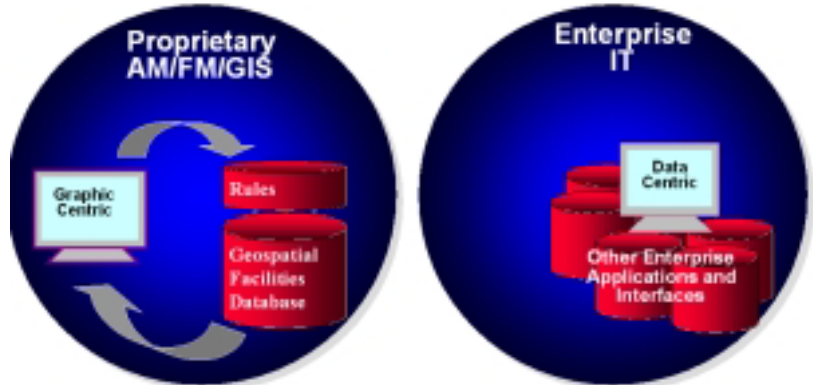
## ENGINEERING & MAPPING (SYSTEM VIEW)

### Current State

The following diagram shows Cobb EMC's current AM/FM/GIS environment.

Cobb EMC began working with this technology 1989. Although the GITA Award-Winning system served Cobb EMC well in building and maintaining the engineering model, it has some disadvantages that can be overcome with newer technology. Those disadvantages include:

- Graphics stored in CAD files
- Rules stored in proprietary database and attribution is stored in a relational database
- Proprietary programming languages required to maintain the system
- Difficult to integrate with other IT systems.

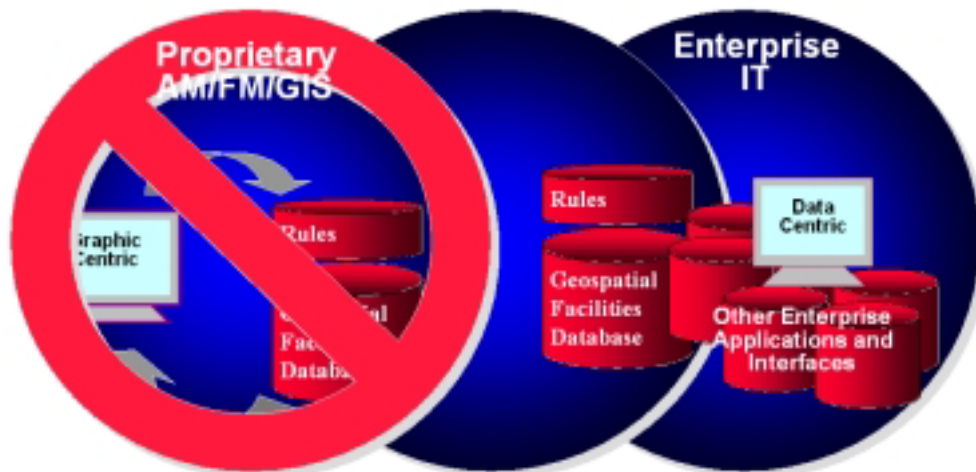


Those disadvantages led Cobb EMC to evaluate newer technology and plan for a future AM/FM/GIS environment that overcomes those disadvantages and fit into this corporate EAI approach.

### Future State – AM/FM/GIS

This new architecture combines graphics, rules, and tabular attribution into one relational database. No proprietary middleware or programming languages required to build or maintain the system. Integration is done through standard SQL, Stored Procedures, Database Triggers and use of EAI. With this architecture, data validation, analysis, and reporting will be faster and easier.

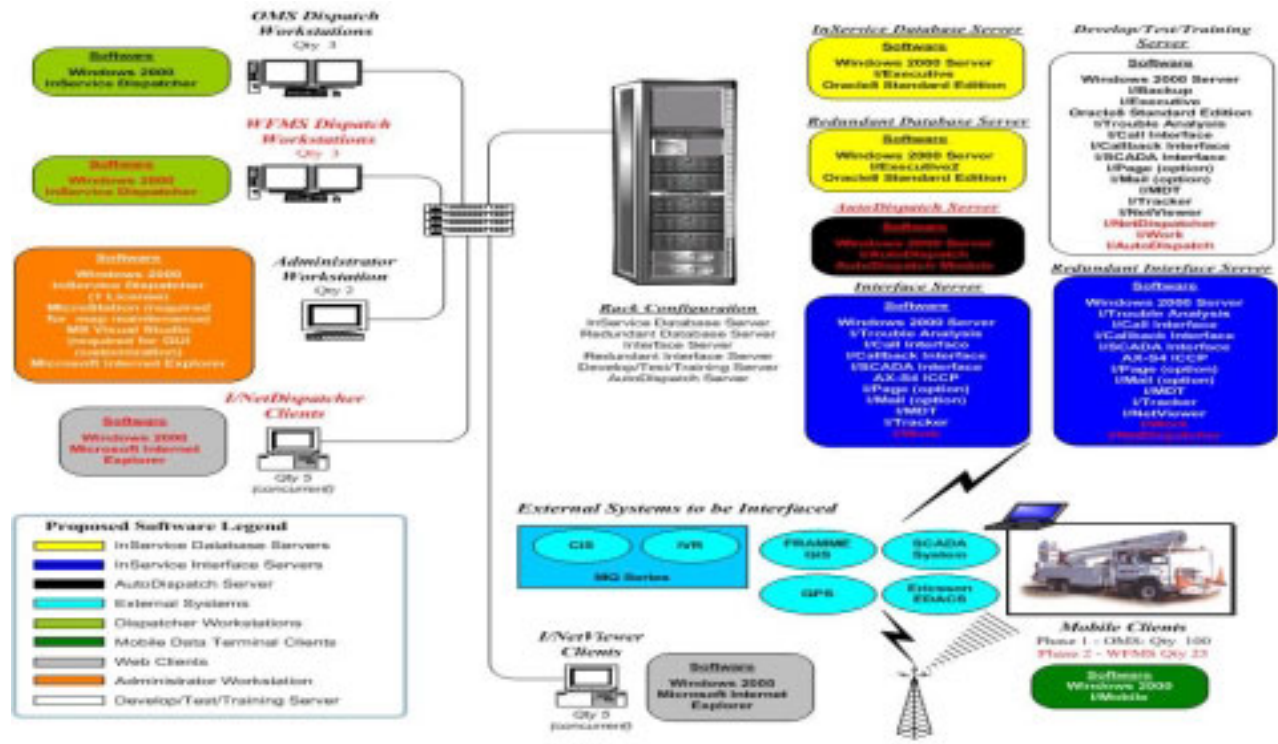
The AM/FM/GIS will continue to interface with Cobb EMC's Outage Management System and will include a new seamless interface to Cobb EMC's new STORMS Work Management System.



## Outage and Mobile Workforce Management

Cobb EMC recently implemented and deployed Outage Management (OMS) and Mobile Workforce Management Systems, using the new IT infrastructure. Components of that system are shown in the diagram below.

The new InService OMS and MWFMS provides a common, seamless platform for managing all types of work – planned and unplanned. The interfaces to other systems, such as CIS were implemented using the Integration Orchestrator and WebSphere MQ technology.



Before this new system, Cobb EMC handled outages the old-fashioned way – by sorting paper tickets and dispatching over the radio. Just days after the new system was put into production, it was put to the test with Tropical Storm Frances. Then a second test quickly approached with Tropical Storm Ivan. The new OMS handled trouble call predictions automatically, giving the dispatchers a new tool to more efficiently handle these storms. As an example, during the storm, the OMS predicted 14 reclosers, and 9 of them were right on the spot.

The trouble calls and other work can also be distributed automatically to the crews in the field over the wireless network. Cobb EMC is piloting this mobile interface now and will roll it out to at least 100 trucks before the end of 2004. The new system will reduce radio traffic, put more information in the hands of the field resources, and improve safety.

## THE INTEGRATION CHALLENGE – HOW DID WE GET HERE?

The desire to make significant operational improvements in billing and customer care ....



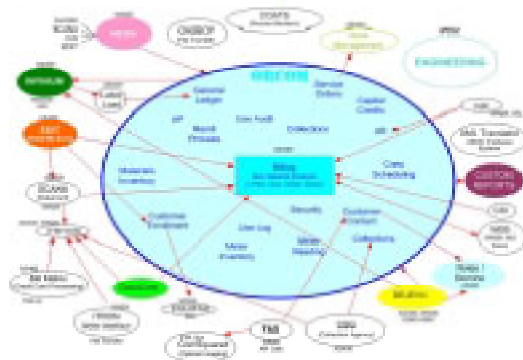
Led to the selection of a new commercial CIS software application to replace Cobb's legacy Orcom CIS ....



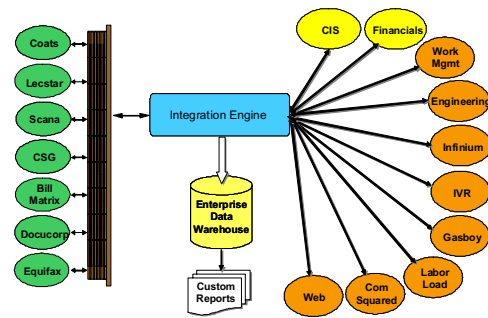
Which is driving the replacement of the entire Orcom software suite, including:

- General Accounting
- Plant Accounting
- Work Orders/Eng. Design
- Materials Management
- Fleet Management

Moving from ...



Toward ...



### Key Drivers for Integration at Cobb

#### First, the CIS

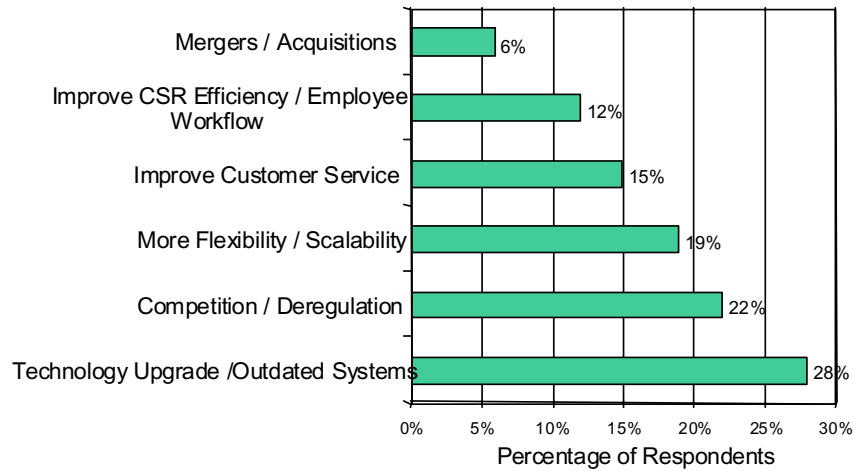
Cobb recently made the strategic decision to improve their Customer Care and Billing capabilities by replacing their current Customer Information system (CIS). Their CIS software vendor (Orcom) no longer supported the current system, and Cobb had previously decided to purchase the source code and maintain it with their internal IT staff. In reality, Cobb paid contractors high fees to customize the system on an adhoc basis to meet new business requirements as they expanded into other business lines outside of their traditional electric distribution unit. This led to a highly customized and complex system that required constant care and feeding to maintain and update. Due to these factors, Cobb decided to replace their old CIS system with a new packaged CIS system solution.

The newly selected CIS system required a different technical platform than the old CIS, so the decision was made to move from the AS/400 platform to an Oracle/AIX platform. This resulted in the need to replace Cobb's other pre-existing business applications. This included Cobb's financial, supply chain and work order design and accounting applications. The business areas using these systems were not involved in the original decision to purchase the old CIS, and over time either developed process workarounds or heavily customized the applications to overcome their limitations. Cobb therefore viewed the need to replace the old CIS as an opportunity to improve their system solution for these business areas.

In addition, the Engineering area had recently determined the need for additional work order management functionality to complement the implementation of a new automated service order

system. Engineering’s requirements were included with the requirements currently met by the old CIS to select a new enterprise-wide system solution for Cobb.

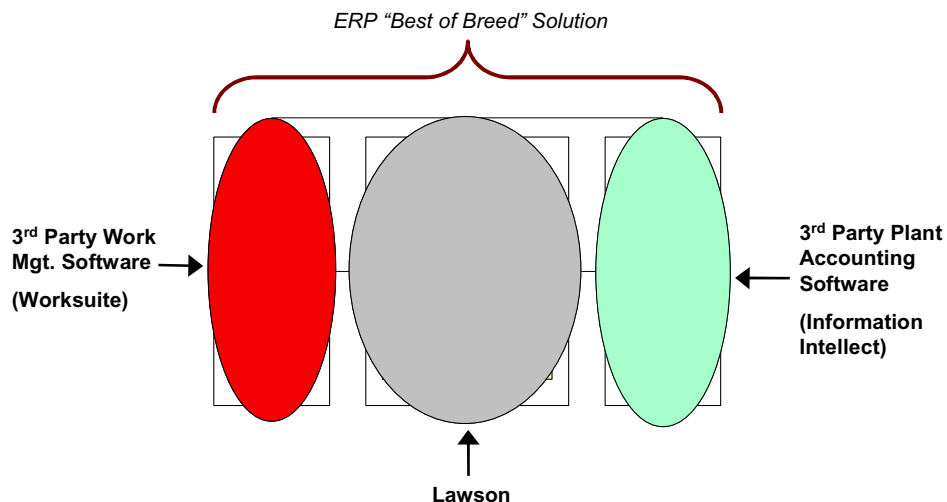
## Reasons for Upgrading CIS Drivers of Change



Source: The Chartwell CIS Report

### Next ... the ERP Solution

Cobb took the approach of looking for one vendor to provide a packaged, integrated footprint to meet all of the system requirements that the non-CIS legacy applications met. The selection process reviewed leading ERP vendors and determined that significant gaps existed around the Engineering and Work Order Accounting functions. Cobb decided to compare customizing one ERP vendor’s solution versus intergrating 3<sup>rd</sup> party software to complete a “best of breed” solution. As a result of this effort, Cobb decided to pursue a full “best of breed” solution to provide the functionality it needed while minimizing the long-term costs of maintaining and supporting complex customizations. Cobb’s new EAI integration architecture was a key factor in making the decision to integrate multiple applications into one “best of breed” solution.



## The Goal ... Significant Process Improvement

Cobb expects to realize significant benefits from improving the system applications for their financials, supply chain and work management processes. Cobb managers will have faster access to more accurate information through better reporting tools, and Cobb end users will be able to move from transactional tasks to value-added analytical tasks. More seamless business processes will replace manual processes and cumbersome system processes. There will now be one view of all work in progress to reduce operational costs, improve utilization of people and equipment and ultimately improve customer service. Eliminating manual processes will prevent “lost” work orders and improve the employees’ ability to control process outcomes for the better. Moving initiation and design functions online will allow the Materials Department to better forecast demand and reduce expensive inventory carrying costs. Cobb’s ultimate vision is to integrate the new work management system functions with their future AM/FM/GIS. This will allow all design estimates and as-built completion updates to be done in AM/FM/GIS and integrated seamlessly with the work management system, thereby reducing data entry and improving record keeping accuracy for Cobb’s distribution system.

