

# Application Support Solution

## White Paper

This document provides background and administration information on CAI's Legacy Application Support solution.



*“World Leader in **IT** Process and Productivity.”*

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# 01 Introduction

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CAI's Legacy Application Support offering and accompanying methodology enable IT executives to identify non-strategic work trends, provide real time comprehensive reports, and implement process-driven methods. These measures result in improved productivity and customer satisfaction, the ability to redeploy knowledge workers to strategic tasks, an improved competitive advantage and reduced application support costs. Today's business and technical environment is changing faster than ever before. As a result, Information Technology executives are faced with ever-growing challenges including:

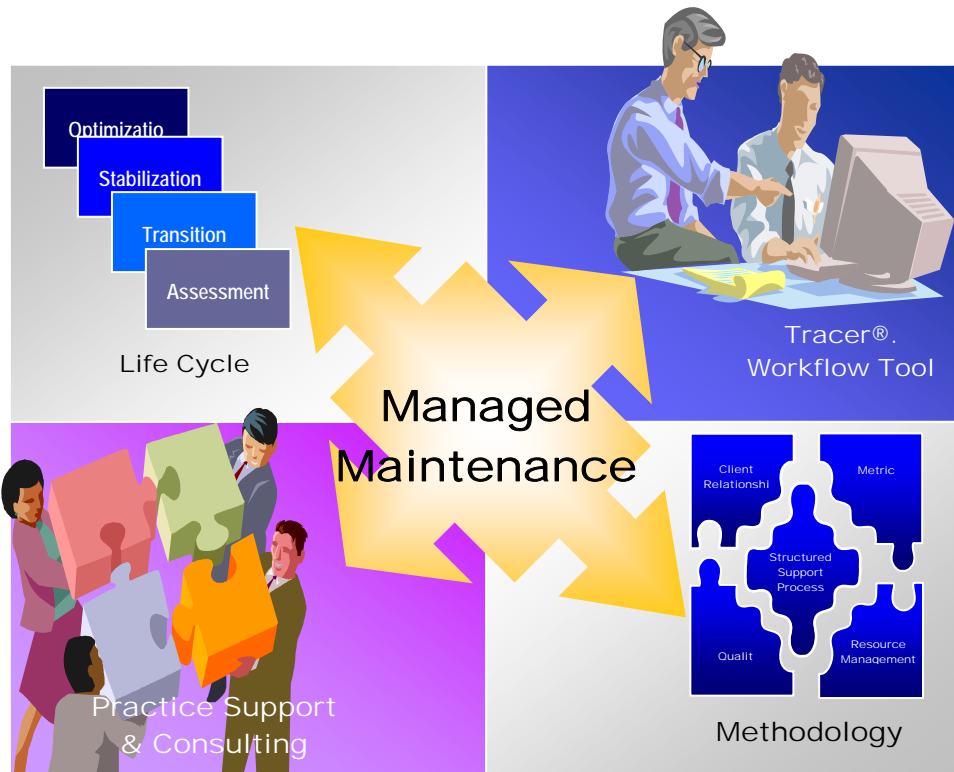
- Increasing Maintenance Costs
- Implementing Strategic Initiatives
- Replacing/Enhancing/Protecting Business Critical Applications
- Decreasing Headcount
- Finding and Retaining Skilled Resources
- Maintaining Employee Morale
- Missing or Outdated Documentation
- Declining Application Knowledge
- Rapid Technology Changes

CAI's Legacy Application Support offering was developed to provide application support services to clients, while addressing the impacts to application support resulting from these challenges. CAI's Legacy Application Support methodology is based on many years of experience, combining the disciplined software support approaches of the US military, IEEE, SEI, ITIL and ISO, with the best practices of CAI's Fortune 1000 clients. As a result, CAI is able to provide flexible, cost-efficient support services using repeatable processes and metrics - ultimately enabling clients to focus on their strategic objectives.

This solution addresses every phase of the outsourcing lifecycle; from the initial assessment and transition of responsibility, through the stabilization and optimization of the application support services. This approach is further defined in the following sections.

# 02 Legacy Application Support Cycle

The Legacy Application Support engagement cycle is divided into three major phases. Each phase identifies specific deliverables and requirements related to project and process maturity. The figure below (and the descriptions that follow) details the main phases of the lifecycle and show the overall objective of each.



## Assessment Phase

The assessment phase identifies the following:

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Legacy Application Support Solution

- Business and IT personnel
- Organizational structure
- IT processes
- System documentation and support tools
- Application components and flows
- Work distribution
- Existing work management tools and application statistics

The information is obtained by surveying the existing support staff in the target application areas to understand the application architecture, technical requirements, depth of skills within the current team, and the procedural environment. Structured working sessions with key application personnel are used to discuss the functions of the application and identify the organizational objectives and service level expectations. The assessment findings are documented and presented, along with delivery options, to client management.

## Transition Phase

The transition phase manages the transfer of support responsibility and knowledge from the existing team to the new team. This is the most critical phase in any application support outsourcing engagement. A thorough assessment provides the proper foundation to plan and execute an efficient and effective transition.

This transition phase utilizes a structured approach, a standard project plan, and standard templates to ensure effective knowledge transfer. This structured transition process helps ensure a low-risk transfer of knowledge and minimizes the duration of the transition as well as the disruption to existing support activities.

The average duration of the transition phase is three months, depending upon scope of the engagement. The transition includes identifying process and application information used to support the application. This information is documented using standardized templates that supplement the existing documentation. Application and process information is obtained by reviewing existing documentation and interviewing existing support personnel in a structured top-down approach. Once knowledge is captured the information is documented for technical users.

The engagement work processes are documented to ensure that the support provided meets business requirements. As part of this effort, the processes of both CAI and the client are seamlessly integrated.

Once the knowledge transfer is complete, the CAI team will work to finalize several support requests. The objective is to test their ability to support the application without assistance from the previous team.

Critical success factors during the transition phase include:

- Successful transfer of support responsibility to the CAI team requiring minimal follow-on consultation with client subject matter experts
- Successful knowledge transfer of application information and client IT support processes
- Successful delivery of in-scope support services including incident resolution, work request completion, and consultation (call support) services
- Defined service levels goals
- Ability to use client-specific utilities and tools
- Coordinated redeployment of client support personnel

## **Continuous Process Improvement Phase**

The continuous process improvement phase begins after the client approves the transition. The phase is complete when all transition project elements are closed, tasks and deliverables are completed, and the client's staff has transferred application knowledge to the team. The continuous process improvement phase is divided into two sub-phases called stabilization and optimization.

### **Service Operation: Phase I**

The stabilization phase begins when the CAI resources assume the primary support and maintenance responsibility for the in-scope applications. Stabilization usually lasts three to six months. During this phase, CAI resources support the application while refining work processes, increasing application knowledge, and understanding the client environment.

Working with management and end users, CAI evaluates performance against the service level goals and works with client management to make any adjustments to work processes (or other service delivery elements) to ensure that business priorities are met.

## Service Operation: Phase II

Once the processes and the staff have stabilized, CAI begins to focus on optimizing the delivery of support services and maturing the processes. The objective is to improve the service delivery processes and exceed customer expectations. The implementation of Capability Maturity Model (CMM) and IT Infrastructure Library (ITIL) standards depends upon the client's business environment and desire for process improvement.

During this phase, processes are optimized, estimating criteria is adjusted to provide more accurate estimates, and application improvements are recommended based on "root cause" analysis activities designed to reduce recurring problems and long-term support costs. This phase completes the series of steps taken to produce capacity either for more strategic work or reduced teams size based on accurate metrics and project tracking.

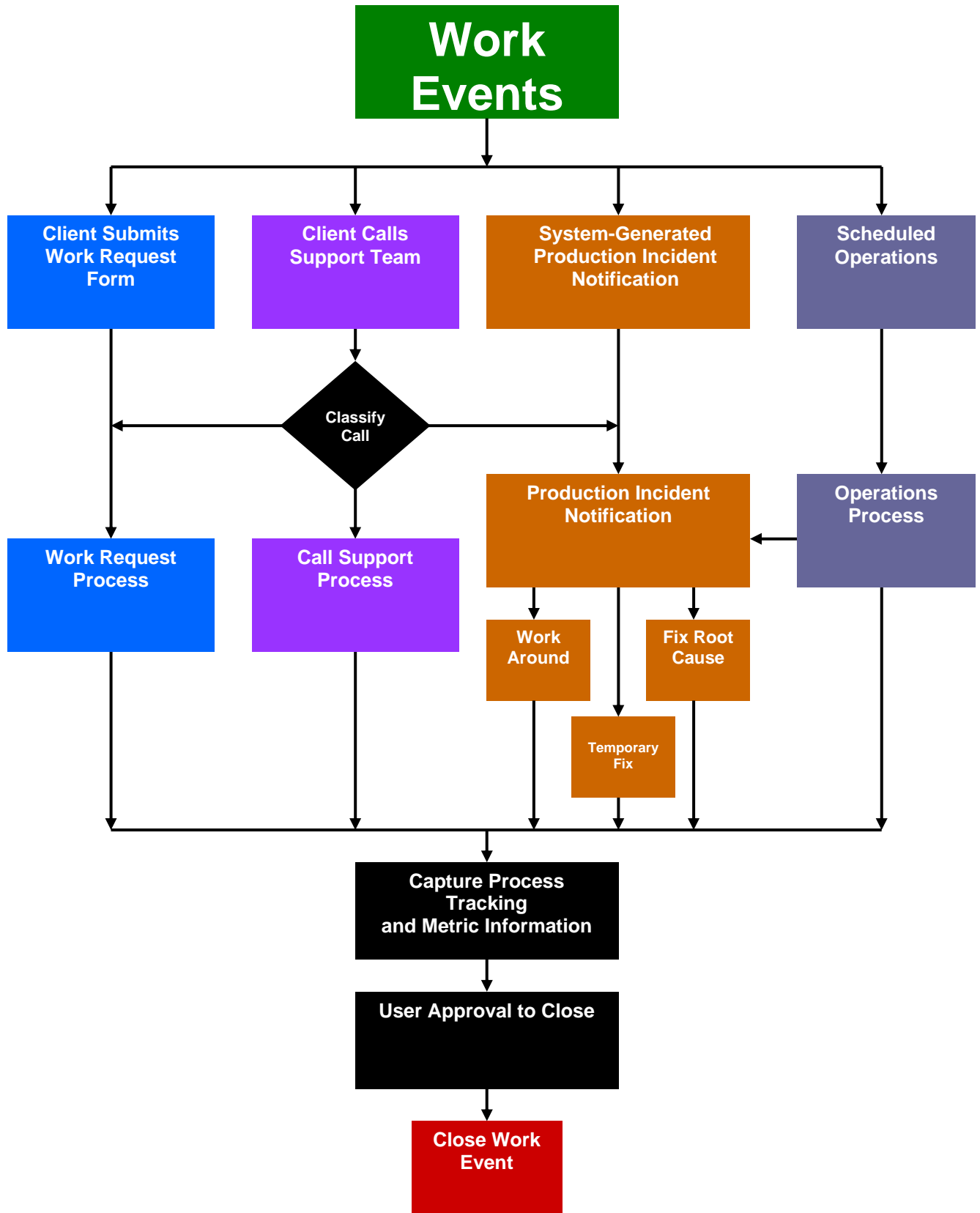
# 03 Support Services Delivery

## Approach

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CAI classifies support activities into three major categories (event types): incidents, call support, and work requests. Documented processes have been created for managing each of these event types. CAI's best practice processes are integrated into the client's processes.

The following diagram illustrates CAI's process for receiving and categorizing work into event types. Supporting this flowchart are documented criteria for categorizing the work and specific processes for managing each event type.



## Support Services

CAI classifies support services into the following event types based upon characteristics of the work, and the desired results.

### INCIDENTS

Incidents are problems. Incidents may involve a disruption to the processing of the system or errors in the input, output, or processing logic. In each case the goal of the team is to resolve the incident in a timely manner based upon incident priority and service level goals. The priority assigned to incidents is based on the impact to the business. Once the immediate situation is resolved, a root cause investigation determines if the problem may reoccur and identifies options for a permanent resolution. The CAI team will be responsible for all incidents including application failures, production errors, and emergency problems.

### TECHNICAL SERVICE CALL SUPPORT

The purpose of call support events is to track and isolate requests for consultation or investigation. Call support involves requests for consultation, investigation, or an answer to a question. They may involve phone calls, responses to e-mails or even consultation meetings. Typically, a request for consultation relating to an existing problem or work request is logged against that work request.

### MAINTENANCE & ENHANCEMENTS (WORK REQUESTS)

Work requests consist of enhancements to existing applications. CAI's support team receives work requests through support calls or formal service requests from the user community. All calls and requests are logged into the tracking database and addressed according to their level of criticality.

## Legacy Application Support Structure

### PROJECT MANAGEMENT

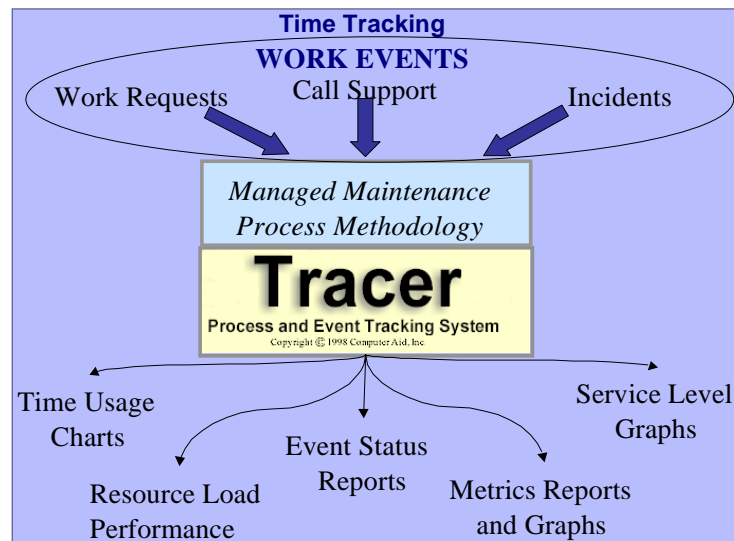
Project management deals with planning, tracking, and controlling the lifecycle of work events. Every effective Legacy Application Support engagement is best accomplished by managing work events with defined processes. An integrated formal process for addressing scope changes and issues that inevitably occur is also required.

### PERFORMANCE MEASUREMENT

The collection, analysis, and reporting of performance metrics are fundamental components of CAI's Legacy Application Support methodology. Metrics enable CAI to effectively measure performance, identify opportunities for process improvements and reduce maintenance costs. The key areas for measurement are determined during the Transition Phase and are continually re-evaluated during the life of the engagement. Maintaining service levels, quality of support, and user communication are integral to success. Initially, CAI reviews service level requirements with the client and delivers a service level agreement. Service level metrics data is captured using CAI's proprietary process and tracking tool, Tracer®. Examples of metrics that are tracked include:

- Number of events within service level guidelines
- Application downtime
- Rework trend
- Time to resolve production problems
- Failure frequency
- Number of outstanding work requests
- Client satisfaction survey ratings

The following graphic depicts the methodological process support and interfaces provided through the use of Tracer®.



Productivity, as it relates to programming and quality, is a critical success factor. Actual programming hours are tracked against *estimated* programming hours to determine an efficiency ratio for each programmer. These efficiency ratios are provided to the programmers, and individual scores are compared to team averages to assess individual contribution to the overall effort.

CAI's expertise in performance measurement allows performance issues to be addressed proactively. As the client and CAI continue working together to improve the support partnership, additional and/or different metrics may be developed and tracked.

## STATUS MEETINGS

Throughout the engagement, CAI conducts team and client status meetings. The primary purpose of these meetings is to facilitate effective communication, not only among team members, but also between CAI and client management.

The frequency of these meetings is determined at the onset of transition. Experience has shown that conducting these meetings on a regular basis enables clients to gain insight into current support status. This is also an opportunity for CAI to acquire a greater understanding of the client's needs and expectations.

During each status meeting, CAI works with the client to review existing request prioritization, as well as to understand and track requests for new enhancements. In order to prioritize all open requests appropriately (existing and new), CAI collaborates with the client to estimate the scope in terms of manpower required and duration of effort.

The status meetings also function as the forum to review support performance statistics produced by Tracer®, as well as open/closed issues and requested changes. Completed deliverables with their accompanying documentation and sign-off documents are also presented during these meetings.

## STATUS REPORTING

Status reporting is an integral component of CAI's Legacy Application Support offering. Information pertaining to unresolved issues, estimated time to completion, and outstanding assignments will be documented and reviewed through status reports.

CAI provides status reporting for each of the teams, to the appropriate support oversight person. These reports will be presented on a regularly scheduled basis at the status meetings. The status reports include:

- List of all open items by event type
- List of completed service events by event type
- Status report of the development phase for all work
- Exception reports highlighting potential problem areas
- Personnel changes
- Open issues

## ISSUE MANAGEMENT

Another key component of CAI's Legacy Application Support offering is the management and tracking of issues. An issue is anything that delays the completion of a work event. CAI uses Tracer® to track and manage issues. This allows for systematic reporting and querying of issue status and issue assignment. This virtually guarantees that issues are not lost or forgotten.

## MAINTENANCE & ENHANCEMENT (WORK REQUEST) SCOPE CHANGE

CAI's Work Request Scope Change process provides necessary management control and awareness to prevent unauthorized or unnecessary changes from impacting enhancement projects. The process ensures that requested changes are appropriately evaluated, classified and documented, and that any change impacting cost of the effort will have proper approval. Steps in this process include:

- Proposing a Change
- Evaluating a Change
- Approving a Change
- Designing, Coding, and Testing a Change

## QUALITY CONTROL

Quality control is intrinsic to CAI's Legacy Application Support offering. CAI strongly believes that product quality control is critical to preventing rework. CAI considers the quality function to be a vital link in meeting - and ultimately exceeding - client expectations in any application support engagement.

## QUALITY ASSURANCE

CAI is a leader in the development of quality process assurance methods. Quality assurance ensures that the defined and standard work processes are followed, and that the client receives the quality of support they anticipated. Quality assurance can best be provided by using resources that are external to the team. Although many support engagements have been successful with process quality assurance done within the team, experience has proven that the best implementation of process and methodology occurs when this function is separate from the support process.

## PROJECT CHANGE MANAGEMENT

Although the size of the support staff will be determined at the start of the engagement, it may change for any of the following reasons upon mutual agreement between the client and CAI:

- Increase in scope of project
- Decrease in work request backlog
- Other unanticipated business conditions

### INCREASE IN SUPPORT TEAM SIZE

CAI maintains a well-trained and highly-talented pool of programmer/analysts. If the client requests that the support team size be increased, these resources are skilled in mainstream technologies and can be assigned to the team. If specific skills are required that are not available, CAI works with the client to develop this capability through resourcing or training.

### DECREASE IN SUPPORT TEAM SIZE

CAI will accommodate a client's request for a reduction in team size, should that become necessary. Under normal circumstances, fourteen days advance notice of staff reduction is requested.

# 04 Legacy Application Support

## Principles

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CAI's experience maintenance and support of legacy applications has demonstrated that productivity, quality and client satisfaction improve when a formal methodology is implemented. The following critical success factors are the foundation of our success.

- **Strong leadership:** CAI's Legacy Application Support offering demands a strong leadership team that is skilled in both the supported technical platforms and the processes and procedures of CAI's methodology. Each engagement has an assigned team leader who is responsible for performance.
- **A detailed knowledge transfer and transition plan:** The ability to successfully transfer support teams into the client's environment is attributable to CAI's standard transition process. A detailed transition project plan is used to ensure knowledge transfer and minimum disruption to service levels.
- **Solid technical skills of team members:** All team members are selected based on their technical capability and experience with the supported technical platforms.
- **High-aptitude, high-energy, results-oriented team players:** CAI's sourcing and career development processes focus on finding and developing career-minded, dedicated professionals who share CAI's overall philosophy of goal-oriented and client-focused service.
- **Highly structured and well-defined support methodology:** CAI has benchmarked their methodology against the SEI and ITIL standards. Benchmarking core processes against highly regarded industry models ensures the highest level of application support performance.

- **Distinct, well executed quality assurance function:** Process quality assurance has positioned CAI as a leader in the legacy systems support arena. Product Quality Control and Process Quality Assurance functions are metrics driven and form the backbone of CAI's continuous process improvement initiatives. In addition, independent quarterly compliance audits are performed to ensure that the CAI team is following the methodology and successfully delivering performance that meets or exceeds client expectations.
- **Use of metrics to measure performance, increase productivity and add value:** The collection, analysis, and reporting of performance metrics are fundamental to CAI's Legacy Application Support offering. By analyzing metrics CAI effectively measures team performance, identify opportunities for process improvements, and reduce client maintenance costs.