



Are equipment obsolescence and/or performance limitations of your existing Plant process Computer Systems driving you to consider replacement?

Let C3-ilex address your technology and budget considerations and propose a phased migration approach tailored to specifics system issues and funding availability

Replacement Issues

The goal, as with any plant modification, is **maximizing revenue** while **minimizing costs and risks**. Typical issues that must be addressed as you face the question of how and when to replace your Plant Process Computer Systems include:

- Plant outage impact – reduce downtime, keep the plant operating
- Budget limitations – competition with other capital projects
- Loss of skilled people for legacy systems – keeping existing systems operating
- Parts obsolescence & escalating repair costs – gradual phase out of obsolete system elements
- Mix of old and new systems – proprietary & open systems protocol compatibility
- Conformance to plant design basis - retain design basis, minimize regulatory impact
- Functionality limitations – plant performance improvement initiatives, data dissemination
- Project scope – configuration management consequences, resource availability, impact on other plant systems.

Plant Computer System Elements

Elements of a typical Plant Process Computer System are generally grouped under the following categories:

- Data Acquisition
- Data Processing
- Data Archiving
- End User Interfaces

When considering Plant Process Computer System replacement, the question arises of whether or not to embark upon a wholesale or modular replacement of its elements. More often than not, the case for a phased migration approach will prevail.

The Case for Phased Migration

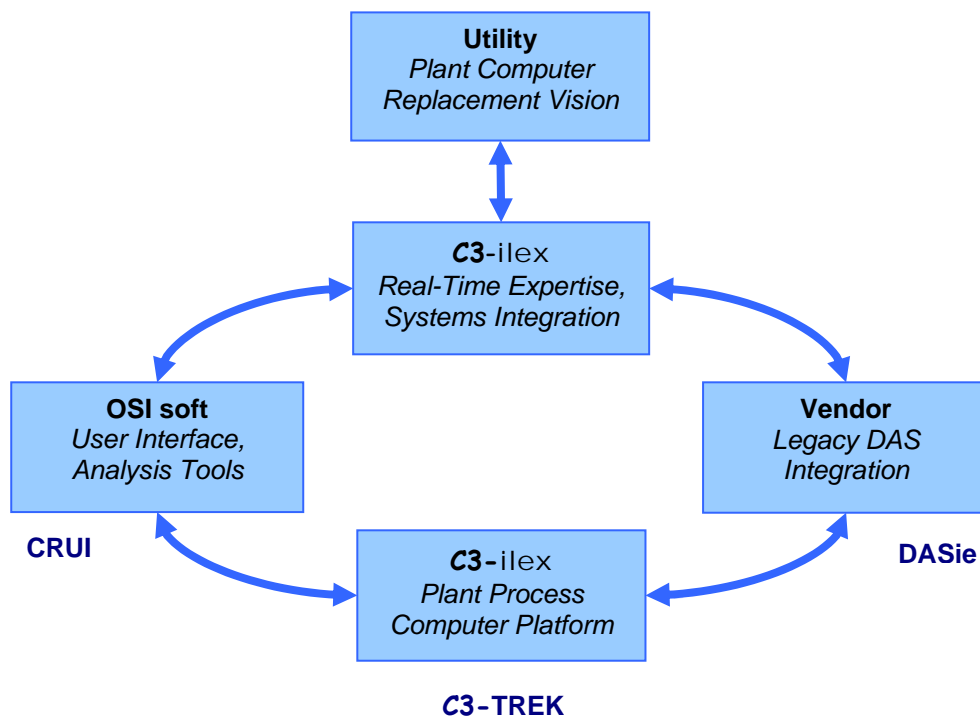
A phased, modular migration strategy for critical plant computer systems is based on planned replacements of the most limiting technology pieces driven by need and budget considerations. The phased migration approach offers a flexible, potentially **lower cost and lower risk** solution than wholesale replacement, which is generally associated with cost overruns and outage extensions. It represents a controlled approach to upgrade of your system that:

- Accommodates a limited budget profile
- Targets specific segments of systems for updates
- Maximizes maintenance budgets by eliminating high cost elements of the system
- Minimizes risk by using a series of small dedicated projects
- Maximizes on-line implementation and minimizes outage required tasks
- Ensures time synchronization integrity among multiple DAS and PPC Systems
- Allows parallel testing of new DAS / PPC functions
- Maintains point ID and historical archive integrity
- Migrates user interfaces separate from DAS and Processors
- Maintains lifecycle refreshment of technology for your system using commercially available hardware and software

The core of a phased migration strategy hinges on a flexible modular system that can accept data streams from multiple data acquisition systems and computers and consolidate this data for presentation in control room displays and for the plant historical archive.

C3-ilex Experience

The C3-ilex team understands the principles for a phased migration approach. Our core competency is in developing and maintaining real time monitoring and control systems. Our experience base provides assurance that data acquisition, processing, archiving and user interface requirements associated with these system elements will be completely understood and integrated into a C3-ilex supported replacement system.



C3-ilex Replacement Solutions

The C3-ilex replacement solution leverages the use of OSIsoft's PI System Servers and Clients, and augments that design with our own powerful applications specifically designed for process and event monitoring. PI is installed in thousands of sites worldwide. Whether you are already using PI or are new to PI, our tools and applications are designed to maximize reuse of commercially available software and hardware.

Commercially available platform – All of our systems are designed to run on standard servers and PCs that support the Microsoft OS XP Professional or 2000/3 server. Our software has been designed to be compatible with the native Microsoft OS with no extensions to maximize compatibility with future upgrades.

C3-TREK is a high performance Transient Recording and Event Knowledge solution that interfaces with multiple data sources to process large amounts of high-speed (millisecond) data utilizing OSIsoft's powerful ECHO Historian. Features include:

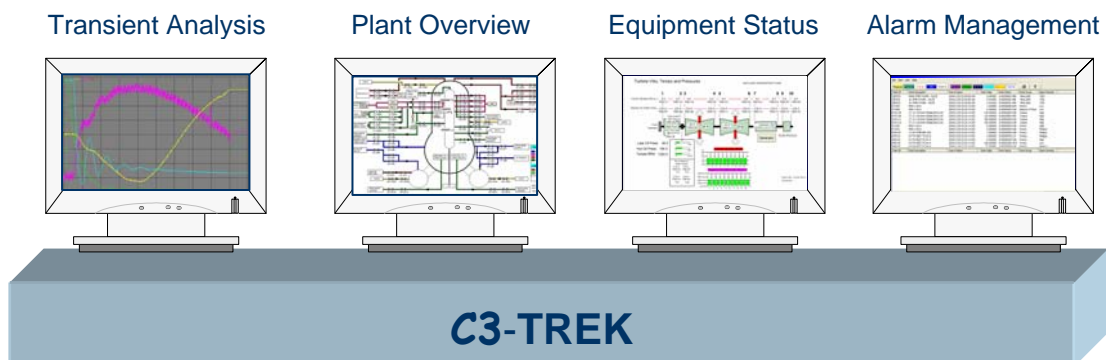
- Millisecond data recording with C3-TREK and the ECHO Historian
- Alarming & Logging
- Digital and Analog Sequence of Events and Event Monitoring
- User definable Event Triggers & tailored archives
- Real time heartbeat and seamless time-synched data exchange with other systems

DASie (Data Acquisition System importer / exporter) DASie, is a rack mountable unit that accepts network or serial fiber device inputs and translates that data stream to one that can be accessed by network addressable computers. DASie is the solution for:

- Integration of multiple vendor DAS and computers
- Interface of Legacy DAS with modern plant computer systems
- Time synchronization across multiple DAS
- Buffering of high speed analog data streams

CRUI (Control Room User Interface) provides real-time data to the plant operator using both C3-ilex developed and OSIsoft PI applications, provides alarm processing, display and logging capabilities and offers integrated, common user interface and displays across the organization.

Our user interface solutions incorporate the use of PI ProcessBook and associated analysis tools. We have augmented ProcessBook with our list view and event management applications to provide the best environment for process visibility, operational analysis and plant performance improvement.



Your Real-time Monitoring and Control Company

Control



Consulting

Custom Projects

C3-ilex provides high-quality products and services for the real time monitoring and control marketplace. Our employees are highly skilled in a variety of technologies and applications. Our products span from data collection and control to end user applications for system management. We also offer numerous services to help integrate legacy systems with new technologies. We welcome the opportunity to learn about your technology needs and to create cost effective solutions to achieve your goals.

For more information on C3-ilex products and services, please find us on the web at www.c3ilex.com or contact us at:

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