

The Role of the System Integrator

To understand the role of a system integration company and the benefits it brings to a customer you need to clearly understand the responsibility of the system integrator and how their development process differs from manufacturers, system companies, or engineering firms.

Development Phase:

The true integrator faces each project with a clean slate. They take a completely non-proprietary approach to the development of the best solution for the customer. Their primary design interest is to understand the goals of the project along with the customer's vision and timeline to accomplish it. Once properly defined this "Design Criteria" is used as the foundation for the system solution.

It is their commitment to this non-proprietary design approach that differentiates the integrator from the manufacturer or the system-company. The integrator does not have to specify any particular hardware, or software, to generate revenue or to make their company more competitive on a project. Since the integrator can supply any hardware, or software, its only interest is to develop the best solution for the customer.

Design/ Proposal Phase:

When the system solution has been developed the integrator creates the individual bid packages for the hardware and service resources needed. RFQs, (Requests for Quote), are sent to multiple suppliers for each part of the project. These solicitations request proposals based on the RFQ and ask each potential supplier to also offer recommendations to improve the system.

The integrator reviews all proposals for compliance with the "Design Criteria" and the RFQ. The integrator then chooses the best supplier and incorporates any recommended changes proved beneficial to the customer. The integrator then presents the completed design and proposal package to the customer for their review and approval.

This "Collaborative Development Process", using multiple proposals from suppliers for each part of the project, maintains competitive bids while fostering innovation from the experts in their individual fields.

Implementation Phase:

Following the review and approval of the proposal the customer awards a turnkey purchase order to the integrator to implement the system as designed. Using "Lean Implementation" practices, borrowed in concept from the latest manufacturing technology, the integrator schedules all the service resources required to complete the system. Detailed engineering from each supplier is coordinated and integrated into a complete cohesive system. Software functionality is finalized and aligned with the system description of operation to ensure compatibility. Performance details are completed with the mechanical

and electrical contractors. A highly defined project schedule is created, and purchase orders are issued to the suppliers.

The integrator assigns a project manager to oversee the progress and to administer the contracts. Each supplier names a contact person within their organization responsible for their performance on their part of the project. Regular project meetings are held to maintain schedules and coordinate the efforts of all involved.

A project engineer reviews and approves drawing submittals from each supplier for compliance to the system specifications.

The integrator assigns a site supervision team to control all jobsite activities and to provide the system engineering capacity to answer technical questions that arise during the installation phase. Based on the size and complexity of the system this resource can vary from a full time requirement to periodic visits to monitor performance.

Additional duties performed by the integrator during this phase, and coordinated by the project manager are system acceptance testing, delivery of technical system documentation, and training both operational and maintenance.

It is the use of these lean implementation practices; the ability to use required external resources appropriately scheduled during the implementation phase that ensures that the value added of each supplier is realized. Further, this focus on keeping each supplier doing what it does best helps to reduce the system cost.

Summary of Customer Benefits:

- Clean slate, non-proprietary design.
- Designs are more innovative – not restricted to particular hardware or software products.
- Continuity of design and responsibility from development through implementation.
- Lower cost – competitive bidding and “Lean Implementation” practices.
- Sole source responsibility – reducing customer interface requirements and vendor list.

Conclusion:

Today’s automation systems must be designed with the flexibility and adaptability required to meet the changes of tomorrow. The design phase cannot be encumbered with the limitations of a product line and implementation must maximize the use of critical resources in the most efficient way, hallmarks of the System Integrator.