



# Multiple Constraint Synchronization (MCS™) Attributes

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The goal of Multiple Constraint Synchronization (MCS™) planning is to develop the tactical response strategy that will meet customer demand within the time horizon required by the customer at a competitive cost in alignment with the overall goals established at the highest levels of a manufacturing organization. The development of Multiple Constraint Synchronization (MCS™) was based upon the following issues when evaluating its performance:

- It should be simple to understand and use. Its simplicity is proven through its usage
- Obtainable goals are established and the schedule provides flexibility for the unexpected
- It provides reliable, real-time information to users. Manufacturing people can depend on its accuracy and use the information to make decisions regarding changes in the schedule in response to problems
- Deviations in the schedule are highlighted in time for those responsible (e.g., supervisors, planners, etc.) to make needed changes. Deviations must come to the immediate attention of those responsible. Time is “always” critical
- The schedule must be flexible enough to allow for changes to be made without disrupting the overall objectives of the schedule itself.

## Special Attributes:

- Uniquely considers that schedules should be established by looking at all of the constraints simultaneously
- Uniquely plans capacity, materials, and strategic objectives simultaneously
- Unique in its holistic consideration of capacity than is true for standard manufacturing planning and control systems
- Unique integrating mechanism for better interfirm cooperation
- Uniquely defines the necessary tradeoffs to be made based upon a manufacturer’s business objectives.

## Additional Attributes:

- Mathematically based
- Focuses on what “is” versus what “is not” important from a global versus local systems perspective
- Theory-T driven rather than material driven system
- Facilitates quick response to volatility in product mix and volume
- Balances flow, not capacity
- Fosters cross-functional cooperation.

## Further Considerations:

- Recognizes that the schedule should be communicated to all manufacturing operations and suppliers
- Recognizes that competitive advantage is directly related to the flow of materials and information
- Recognizes that the level of utilization of a non-bottleneck is determined by some other constraint in the system
- Recognizes that utilization and activation of a resource are not synonymous
- Recognizes that time lost at a bottleneck is time lost forever
- Recognizes that time saved at a non-bottleneck is a mirage
- Recognizes that constraints govern both throughput and inventory in the system
- Recognizes that the transfer batch may not, and many times should not, be equal to the process batch
- Recognizes that the process batch should be variable, not fixed
- Recognizes that lead times are the result of a schedule and cannot be predetermined.

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