**LSI Demand & Capacity Task Scheduling Approach**

**Demand & Capacity Problems:**

1. Duration Changes when Resources are Added
2. Duration Adjusts when Actuals are Entered
3. Remaining Work is always pushed past the end date
4. Concerns about the Dashboard being impacted by different task types

**Demand & Capacity Ingredients:**

1. Demand is comprised of work assigned to a task
2. Capacity typically is defined as (Resource Max Units x Resource Calendar/Availability Table – Work Assigned)
3. Task Types that Impact Task & Remaining Work Behavior
   1. Fixed Units
   2. Fixed Work
   3. Fixed Duration
   4. Effort Driven (has inherent work distribution behavior). Note Fixed work is Effort Driven Exclusively
4. Manual vs. Automatic Task Types
   1. Manual Tasks do not utilize the scheduling engine so Fixed Work, Units, Duration have no bearing on tasks
   2. You can have elapsed duration manual tasks
5. Duration vs. Elapsed Duration
   1. You can leverage elapsed duration for Manual or Automatic Tasks
   2. Elapsed Duration does not increase the capacity of resources, nor does it impact the demand, it simply ignores the overall calendars and allows work to be escalated to 24 hours or to maximize the working time (24 hours and make every day a potential working day)
   3. Elapsed Duration will simply open up the working day availability and tell the scheduling engine to ignore resource calendars

**Task Type Impact Assessment:**

1. Project Calendars:
   1. Resource or Task Calendar only affects Auto Scheduled Tasks and Task without Elapsed Durations
   2. Calendars
2. Manually Scheduled Tasks
   1. Standard Duration
      1. Work entered in actuals will continue to move remaining work forward, but won’t change the duration until the last day
      2. Last day if remaining work is not amended and last period is less then remaining work will be scheduled to next work days (using the calendar)
   2. Elapsed Duration
      1. Work entered in actuals will continue to move remaining work forward, but won’t change the duration until the last day
      2. Last day if remaining work is not amended and last period is less then remaining work will be scheduled to next day ignoring working calendars
3. Fixed Work
   1. Work adjusts the schedule unless resource changes remaining work to zero (as designed)
4. Fixed Units
   1. Work adjusts the schedule unless resource changes remaining work to zero (as designed)
   2. Net effect is that when a resource is added to the task the work is increased versus the original hours effort being distributed
5. Fixed Units (Effort Driven)
   1. Work adjusts the schedule unless resource changes remaining work to zero (as designed)
   2. The difference with Effort Driven is that the % of Resource Assignment and Distribution of Task work is allocated to each new resource added
   3. Net effect this will only addressed detailed scheduling and not high level program estimating
6. Fixed Duration
   1. Work does not adjusts the schedule until last time entry period, when remaining work will be recalculated
   2. Unless resource changes remaining work to zero (as designed), remaining work will continue to pile up
   3. Net effect is that when a resource is added to the task the work is increased versus the original hours effort being distributed
7. Fixed Duration (Effort Driven)
   1. Work does not adjusts the schedule until
   2. unless resource changes remaining work to zero (as designed)
   3. The difference with Effort Driven is that the % of Resource Assignment and Distribution of Task work is allocated to each new resource added
   4. Net effect this will only addressed detailed scheduling and not high level program estimating
8. Timesheeting Updates
   1. Work Scheduled Outside of Existing Timeline will Increase the Schedule
   2. Work Updated (Actuals) will adjust the schedule (dates) for the following:
      1. Fixed Work
      2. Fixed Units (& Effort Driven)
   3. Work scheduled will not change the dates until the last time period is entered and the actuals are less than the remaining work. Elapsed Duration Tasks will move work to the next day, where standard durations will move to the next working day (calendar based).
   4. All work will Reschedule future Remaining work unless Remaining Work is Zeroed out on the last day
      1. For all Task Types and Duration Types

**Findings & Recommendations:**

1. Add Training for Adjusting Remaining Hours
   1. Timesheet View
   2. My Task Views
   3. Team Members or PM’s
2. Program High Level Tasks:
   1. **Fixed Duration Effort Driven, Elapsed Duration**
      1. This should be used based upon high level planning
      2. Remaining work will only need to be adjusted on the last cycle if work
   2. **Manual Task, Elapsed Duration**
      1. Will not move or adjust and actuals will only change the end date if the remaining work is not adjusted at the end of the last time period
   3. Fixed Units Effort Driven, Elapsed Duration
      1. This is a possibility if you do want the end date to continue to adjust and the percentage of peoples time will stay allocated
      2. I don’t think this will fit LSI’s needs, however.
3. Standard Detailed Planning Tasks
   1. **Fixed Duration, Effort Driven**
      1. If work can be adjusted, the schedule won’t slip and resource views will show overallocation
      2. Duration increases do increase the work
   2. Fixed Work
      1. If Work is the driving factor, then the schedule will slip if actuals are adjusted.
      2. Duration increases don’t increase the work
   3. Manual Tasks
      1. If planning should not move unless the PM wants it to
      2. Duration increases increase the work

**Dashboard Capacity & Reports Assessment:**

1. Demand and Capacity are not impacted by task types
   1. Work equates to demand
   2. Capacity typically equates to Resource Max Units / Calendar Availability
2. Per LSI Request (Addressing Capacity)
   1. Capacity is to be calculated as a feature of the WebPart in the BI Report (setting the working days)
   2. This removes much of the calculation gyrations that occur in trying to read and decipher Project Server tables, fields and availability calculations and calendards
3. Demand does not change in the Schedule and has no impact on the reports
   1. We need to test in Production Per Mike’s request so that we are seeing the same set of numbers, but work equates to demand and the WebPart calculates availability based on the setting that can be adjusted in the webpart.

**Questions to be Answered:**

1. How do you want the calendar to impact Program tasks
2. How do you want the calendar to impact detailed planning tasks