

# IT 600 Final Project Milestone Three Template: Full Organizational Profile

**Directions:** For Milestone Three of your final project, insert your answers directly in the *Student Analysis* column below by doing the following:

* In each of the “Tech Description” fields, describe the GPOS feature using relevant technical terms and topic-related details.
* In each of the “Business Requirement” fields, describe (in business terms) how the absence of this GPOS feature impacts a business such as TSI.
* In each of the “Application Benefit” fields, describe the impact of this GPOS feature on the software applications that are typically run by businesses.
* In each of the “Implementation Tasks” fields, describe (in detail) how this feature would be implemented in a typical business back-office environment.
* See the instructions at the bottom of the document about the recommendation you will need to make.

**Note:** You can reuse the two criteria you completed in the Milestone Two (Tech Description and Business Requirement) to complement the new work in this milestone (Application Benefit and Implementation Tasks). Be sure to incorporate any instructor feedback you received on your Milestone Two submission.

| **GPOS Feature** | **Profile Criteria** | **Student Analysis** | |
| --- | --- | --- | --- |
| **Multiprogramming** | Tech Description | Multiprogramming is when several applications are ran in different stages of execution but are still on a single I-steam engine. This allows multiple applications to use the CPU not at the same time but in schedule with each other whereas without it CPU utilization would go up and down tremendously. | |
| Business Requirement | From a business perspective without having multiprogramming computers CPU’s would be tasked with one job at a time and couldn’t multitask. In highlight speed would be slowed down and thus productivity slowed. It used to talk people days to program simple systems and now it can be done in minutes because of this. | |
| **Multiprocessing** | Tech Description | Multiprocessing is the running of multiple programs on a computer running at a single time from a CPU. For example, a web browser and email application running at the same time. | |
| Business Requirement | In the absence of multiprocessing a company from a business perspective would end up losing productivity due to having to wait and work with one program at a time. | |
| **Multithreading** | Tech Description | Threads can execute different parts of a program side by side with other threads to help processes run quicker. Although they cannot run at the exact same time if using the same CPU, splitting threads up on different CPU’s can make a process run much quicker. | |
| Business Requirement | Without multithreading we would be limited to the old way of computing where we have to wait for each command to be finished after the other. Threads are inside processes and therefore without them process/applications would take longer and again decrease productivity and ultimately money. | |
| **Virtual Memory** | Tech Description | Virtual memory allows for applications to run without having to worry about conflicting memory in other applications. The virtual memory is passed on to the OS and then the OS will schedule the memory with physical hard drives or RAM. | |
| Business Requirement | Losing virtual memory would mean that in certain circumstances that applications should use duplicate memory the effect of this could be anything from crashing to completely wiping all your memory and losing everything. Ultimately if you lost of all your things you would be losing money as well especially if it’s a banking system. | |
| **System Call Interface** | Tech Description | System calls provide an interface to the services from the operating system. In other words if an application needs access to resources that it doesn’t have permission to have it can make a call to go into kernel mode this call is the system call interface. | |
| Business Requirement | Without having this functionality applications would have to run in a certain mode that if it crashes the whole system would crash. Having these calls allows for more stability in user workflow. More stability in workflow means more productivity and more money. | |
| **Security** | Tech Description | Security is the state of being free from a danger or threat. This is an important feature when it comes to technology since someone can impersonate another person and take what they do not own. | |
| Business Requirement | Security needs to be a priority, since without it there is a possibly that an organization can be hacked and ransomed for money. | |
| **Device Drivers** | Tech Description | A device driver is a group of files that controls some sort of hardware for the computer. These files communicate with the OS to be able to use the physical device. | |
| Business Requirement | Device drivers enable organizations to be able to use modern hardware. Without device drivers’ computers would not be able to connect to the internet. In case not able to be productive and therefore not make any money. | |
| **Fault Tolerance** | Tech Description | Fault tolerance is somewhat of a safety net in case applications or hardware break the entire system doesn’t crash. Similar to a ground line in electricity many times it can stop a major issue. | |
| Business Requirement | In an example if you’re working on a school project and your computer dies you don’t want to lose all of your information so as a fault tolerance the computer in some OS’s will save your work as a final process. | |
| *Recommendation: Your recommendation should map the technology you have described above to the overall requirements of TSI and their endeavor to implement TSO OS in their back office. Your recommendation should not be a simple regurgitation of the facts above.* ***Imagine you are presenting a summary of your findings and a recommendation to a busy executive.*** *Give a crisp, one-paragraph summary that defines how TSI will move from the current state to a future state that implements an operating system with all of the capabilities necessary to meet its requirements.*   | *Insert recommendation below* | | --- |   Moving forward TSI will focus on using all the GPOS features listed above. Our focus will be on the code we write for our applications. We will focus heavily on multithread and multiprocessing. This will help our application produce high performance when dealing with large amounts of data. This is exactly what we need to help grow our company to the next level. Most users leave if a product isn’t working within five seconds. This will help ensure that all our processes work right away within milliseconds. If we want to move forward as a company this is the way, it happens. We have to continue innovating or we will begin to fade away as a company. | | |