

# Assumptions Verifier Letter



## Assumptions Verifier Letter

To Project/ITAR POC ( Program Manager and/or Project Manager ),

In an effort to ensure compliance with Enterprise Systems Engineering (ESE) standards, and to minimize delays in the procurement process, this letter serves the purpose of making assumptions that the recipient of this letter will be obtaining and implementing infrastructure at the VA in accordance with the following assumptions and architecture design:



- **Assumption** - It is assumed that backup and restore, persistent computing, performance and security architecture is in place and will meet the expectations of the customer. If the architecture does not meet customer expectations in these areas, please see ESE immediately for additional information.

*ESE Suggested Architecture: data restore should occur in less than 8-10 hours.*

*ESE Suggested Architecture: the amount of data is important as it will have a direct impact on the ability to backup, restore and provide a persistent computing environment. Remember that standard recovery from a backup is 1.5x the backup time.*

- **Assumption** - It is assumed that all service and application dependencies are understood and the appropriate level of risk is understood. If the architecture does not meet customer expectations in these areas, please see ESE immediately for additional information.

*ESE Suggested Architecture: An accurate dependency map of all services should be developed. Service availability should be defined as services unavailable for more than 4 hours, less than 30 minutes, less than 10 minutes, and/or less than five minutes. The "complete" TAR analysis produces an ACE-Map (Accountable Customer Experience) that defines this information.*

*ESE has prepared additional information to assist in the development of a persistent computing architecture. Please see the QuickBrief books on the Enterprise Technology portal (link: [here](#)). See the "Persistent Computing" for sizing and classification of storage. In addition see the online Persistent Computing Guide (link: [here](#))*

- **Assumption** - It is assumed that all data associated with the solution will be protected, and that data loss will be absolutely minimal. If the architecture does not meet customer expectations in these areas, please see ESE immediately for additional information.

*ESE Suggested Architecture: data loss should be an absolute minimum. Many technologies can be implemented to minimize data loss. Some of the technologies include, although are not limited to: host-based data replication, dynamic imaging and array-based data replication. Some of the technologies can be purchased for less than \$500.00 per server...data loss should never be an allowed risk. The "complete" TAR analysis produces an in-depth report to assist with data loss prevention.*

*ESE Suggested Architecture: The purpose of this assumption is to establish whether synchronous or asynchronous replication is applicable. Data replication is a relatively straightforward infrastructure. Host-based data replication*

allows you to replicate data from despondent storage systems; whereas array based data replication requires a storage area network provided by the same manufacturer. It is also important to note that host-based data replication does not require external storage and can replicate data directly from a server to a centralized storage environment.

Synchronous replication is supported in most cases within the same metro area. The rule of thumb is that storage devices, in this case storage area networks, should be within 10 km of one another.

A common strategy is to deploy synchronous replication, often within the same data center, coupled with asynchronous replication to a geographically dispersed data center. This provides maximum protection for the data, as well provides a solid strategy in the event of a complete data center catastrophe.

Synchronous replication is supported in most cases within the same metro area. The rule of thumb is that storage devices, in this case storage area networks, should be within 10 km of one another.

Synchronous replication within a geographically dispersed architecture is often restricted by available budget and/or application latency. Remember in synchronous replication model, the data must be written to both storage devices before the application can process the next transaction. If the confirmation from the geographically dispersed storage takes too much time (latency)... the application will often fail as it perceives the synchronous write has failed. As a result, asynchronous replication is often deployed for geographically dispersed architecture.

- **Assumption** - It is assumed that sizing of the computing resources will provide adequate performance for all hosted applications and services. If the architecture does not meet customer expectations in these areas, please see ESE immediately for additional information.

*ESE Suggested Architecture: Application performance is very dependent upon the hardware infrastructure. Servers, storage and networking all play an important role in defining application performance. The number of transactions per second/IOs per second is required for the sizing of servers, storage and network capacity. Enterprise infrastructure engineering is available to answer questions and provide support to develop a proper sizing of equipment for this solution. ESE has prepared additional information to assist in the sizing of the environment. Please see the QuickBrief books on the Enterprise Technology portal. See the "Server Standards Book" for sizing and classification of servers (link: [here](#))*

- **Assumption** - It is assumed that the architecture includes a recovery order, and that the solution is adequately designed. If the architecture does not meet customer expectations in these areas, please see ESE immediately for additional information.

*ESE Suggested Architecture: Recovery order definition allows for the proper persistent computing infrastructure. It is assumed that an understanding of dependencies and recovery order have influenced this architecture.*

- **Assumption** - It is assumed that all services will be available within the customer defined service level agreements. If the architecture does not meet customer expectations in these areas, please see ESE immediately for additional information.

*ESE Suggested Architecture: Service availability enables the customer an optimal computing experience. Service replication is simple and strongly suggested for all architecture. At minimum, restoration of a failed service should occur in less than 30 minutes... optimally less than 10 minutes. Technology to support dynamic imaging/restoration is often less than \$500 per server, with a minimal infrastructure required.*

- **Assumption** - It is assumed that patient data is secure. If the architecture does not meet customer expectations in these areas, please see ESE immediately for additional information.

*ESE Suggested Architecture: Patient data should not reside on the local desktop unless it is properly secured. Please see ESE for additional information.*

- **Assumption** - It is assumed that the operating system will either be a Microsoft product or a Linux platform. If the architecture is not one of these two operating systems, please see ESE immediately for additional information.

*ESE Suggested Architecture: If the operating system is anything other than Windows or Linux please notify EIE.*

- **Assumption** – It is assumed that ONLY approved Operational TRMs from <http://vaww.eie.va.gov/techstrategy/TRMOP> will be used for the acquisition. If a variance to the published TRMs is required, please see ESE immediately for additional information.

*ESE Suggested Architecture: Download current TRMs.*

- **Assumption** – It is assumed that the architecture design is accurate and fluid. It is imperative that the architecture provides clear business requirements, success criteria and the protection of services and data.

*ESE Suggested Architecture: Consult with ESE for additional architecture design.*

- **Assumption** – It is assumed for mobile devices that mobile device management (MDM) software will be deployed to optimize the functionality and security of a mobile communications network while minimizing cost and downtime.

*ESE Suggested MDM: Consult with ESE for MDM guidance.*

