

**API LIS Functionality Assessment Toolkit - Version 1.0 - 09/20/2013**

**Appendix III - Total Cost of Ownership**

**Worksheet: Total Cost of Ownership (TCO) Parameters for an LIS**

This document has been developed to help Lab Management differentiate between and calculate the TCO for LIS systems that have different technical platforms. If an LIS has multiple databases, integrated or fractionated\*, the total cost of the LIS must include many additional items. This worksheet will help you develop a total cost according to the additional cost outlined by each platform.

<b>TCO categories</b>	<b>Single Database</b>	<b>Integrated</b>	<b>Fractionated</b>
<b>RFP Worksheet</b>			
<b>Software</b>			
<b>Core Application License</b>			
<b>Integrated Application License</b>			
<b>Fractionated Application License</b>			
<b>Implementation Cost</b>			
<b>Hardware (servers and work stations)</b>			
<b>IT infrastructure costs (networking, security, data backup, etc.)</b>			
<b>Consulting (e.g. requirements gathering, product selection, system design and integration planning)</b>			
<b>Training and documentation</b>			
<b>Additions to operational personnel in Lab</b>			
<b>Additions to IT personnel</b>			
<b>Ongoing external consulting</b>			
<b>System maintenance and support</b>			
<b>User support/Help Desk services</b>			

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<b>TCO categories</b>	<b>Single Database</b>	<b>Integrated</b>	<b>Fractionated</b>
<b>Software</b>	Single vendor for all modules	Multiple vendors, built all results interface through Gen Lab module	Multiple vendors and no data integration. Multiple license cost
<b>Core Application License</b>	Single vendor for all modules	Will have a Core license fee and additional depending on modules integrated	Will have a Core license fee and additional depending on modules added on
<b>Integrated Application License</b>	Not Applicable	Many vendors will manage all license fees through their master contract	Not Applicable
<b>Fractionated Application License</b>	Not Applicable	Not Applicable	Many vendors with independent license fees and contracts to manage
<b>Implementation Cost</b>	Single implementation cost and focus	Single implementation cost managed by Integration company	Multiple implementation cost depending on number of independent vendors
<b>Hardware (servers and work stations)</b>	Single hardware platform	May be multiple hardware platforms	Will be multiple hardware platforms
<b>IT infrastructure costs (networking, security, data backup, etc.)</b>	Single cost for one LIS	May be multiple networking requirements	Will be multiple network requirements
<b>Consulting (e.g. requirements gathering, product selection, system design and integration planning)</b>	Single system focus.	Will need multiple consults with different system experience	Will need multiple consults with different system experience
<b>Training and documentation</b>	Single system to be trained	Multiple systems to be trained	Multiple systems to be trained

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<b>Additions to operational personnel in Lab</b>	Will provide workflow optimization throughout all departments	Minimum additional personnel due to data integration	Maximum additional personnel due to fractionated data and module linkages
<b>Additions to IT personnel</b>	Need to support one system	Need to support a couple systems	Need to support multiple disparate systems
<b>Ongoing external consulting</b>	LIS can focus on single system.	LIS needs to learn and support multiple systems	LIS needs to learn and support many systems and workflows for each department
<b>System maintenance and support</b>	Single system maintenance	Multiple system maintenance	Multiple system maintenance
<b>User support/Help Desk services</b>	Only needs to learn one system	Needs to understand integrated system	

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**\*\* LIS Platform Definitions**

**Single Database (Best of Breed):**

The ability to have all applications and end users see the entire patient lab record and provide the ability of the applications to trigger rules across different modules while managing patient safety rules. This single database scenario is usually a relational database that allows all modules to write and read from the database and reduces the duplication seen with the old indexed file databases.

**Integrated:**

The Integrated applications are ones that have different databases, but have some integration built between the applications. The ADT data may be exchanged between the main LIS system and one of the integrated ones. The results may be interfaced back to the main LIS and then transferred (interfaced) over to the HIS/EMR system. The problem with these databases is that you can not have real-time proactive rules trigger to provide patient safety links or follow up testing.

**Fractionated:**

The fractionated platforms are the least integrated and allow no data transfer between the lab modules. Depending on the vendor, you may have Gen Lab, micro, and BB transfusion modules with the same vendor and application tool sets, but the AP, HLA, Genetics, BB Donor, and Outreach modules would be separate. These types of system restrict all ability to develop rules and alerts across the disparate systems within the lab. These systems will require additional Lab staff to perform manual workflows to make up for the lack of integration between lab modules.

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