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TITLE: Leveraging New Information Technologies to Manage
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Leveraging New Information Technologies to Manage Obsolescence

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In the new economy of digital technology the transition rate of component level functionality is transitioning at an accelerated rate introducing greater functional complexity. As voltage out put scales downward and micron line width design rules are reduced there are new generations of digital technology that offer superior functionality that is more reliable, uses less power, less real state, less weight and smaller power supplies. The newer generations of component technology are rapidly causing the older generations of component technology to become obsolete because the cost of various functionality commodity groups are reduced with the scaled down designs. At i2 through our global semiconductor library maintenance we are recording 37,000 component discontinuance notifications on an annual basis. Within the digital category a new generation of microprocessors is being introduced every 18 months and a new generation of memory type devices is being introduced every 9 months with speed and density increases. This high rate of technology transition is impacting the production and spares support to sustain weapon systems that require ten, twenty, thirty or more years of operational support.

- To manage component obsolescence new information technologies are providing specialized software tools and content libraries that can be used to reduce the financial impact of semiconductor obsolescence. An example of advanced obsolescence information tooling that is on the market is offered by i2 Technologies. Built into their obsolescence management software product called TACTRAC the software provides life-cycle projections that can be used for component selection or assessment of existing designs. The i2 component life cycles can be used to provide a continuous analysis of a weapon systems production readiness. The same component life cycle information can be used during the component selection phase to screen out obsolescence at the component level and insure state-of-the-art components are be selected for a new design or modernization. If software is the motor the fuel for the software is daily updates on changing component availability. This type of information is supplied by the i2 global content libraries that contain all semiconductors made anywhere in the world. As component availability changes, new source, introductions, discontinuances, life of buy notifications, quality changes, packaging changes and functionality changes the delta of change is sent to i2's customers in real time and the software tell the customer where the parts are used in their product configurations. In addition to the changing component "availability notification" the content libraries also supply all form, fit and function equivalent parts thus providing the user with all replacement options if they exist. The TACTRAC capability offered by i2 also provides a means of "secured" data exchange allowing a collaborative operational environment to solve common obsolescence problems at the component level. This allows different divisions or program offices to share visibility on common component obsolescence problems. Teaming a common problem when evaluating solution options or leveraging the

collective purchasing power on a common problem can save thousands of dollars to a specific program. Fragmenting the workload or leveraging the purchasing power to make a bridge achieves such savings or lifetime buy. Teaming common problems will also reduce the time to resolve the common problem. Clients using i2's TACTRAC obsolescence service have been able to reduce the cost impact of obsolescence by 15 to 20%. Such savings is obtained by leveraging collaborative operational environments on common problems, use of life cycle projections and daily notifications of changing component availability. By implementing this type of tooling and having access to the content libraries this allows a customer to optimize in cost savings the following work process flow:

- Reduce time to market for new designs or modernizations
- Component selection to minimize single source situations
- Consolidate technology baseline within an enterprise or program
- Reduction of imbedded obsolescence using life cycle projections
- Timely technology insertion and planning for modernization priorities
- Collaboration on common component obsolescence problems

Studies by the US Department of Defense have shown that 70% of weapon system expenditures to support a weapon system are made in the after market years. Proper implementation of modern information services by equipment contractors and military program offices could reduce weapon system "cost of ownership" by 15 to 20%. Reacting to individual component obsolescence problems on a situational basis can become cost prohibitive. Especially to programs that are aged or are past their mature funding years. To properly utilize the newer information technologies will require a cultural change within the suppliers that build weapon systems. In the new economy common problems can be teamed protecting the security of each company that is participating in the "teaming" effort.