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White Paper

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What is Application Lifecycle and Why is it Often Ignored?

Application lifecycle can be broadly defined as the process of managing the life of an application through governance, development, and maintenance. Today, nearly all software applications attempt to follow an application lifecycle model to improve functionality and various processes performed within the software.

In the 80's and 90's, during the inception of personal computing, came the concept of upgrading. At this time, upgrading was a popular concept for both hardware and software. For example, several operating system versions sustained a rapid release cycle. The software surrounding these release cycles also followed suit. Within the last ten years or so, the software industry has learned to better pace itself; however, it should be noted that popular operating systems today still have an approximate three year release cycle. There are countless reasons that operating systems are released more often; the most significant being to improve security in the rapidly evolving computing world.

With application lifecycles of approximately three to five years surrounding the public safety industry, from various operating systems to software suites, why is it that the majority of public safety software providers seem to ignore the application lifecycle? While the answer may not be clear on the surface, once you dig down deeper, the answer makes perfect sense.

The public safety industry often expresses its systems as COTS (**C**ommercial **O**ff **T**he **S**helf) solutions. However, in reality, these systems are very often "customized for a sale". Once customization is promised even for one "sale", the burden begins. The industry term used for this type of customized sale is a "one off", meaning one version that is off the COTS platform. Typically, this "one off" is built and branched off from the true COTS system and becomes a nearly impossible situation to manage. The original COTS version cannot advance as the development entity is now working on a customized version. And the customized version does not reap the benefits of the enhancements and platform advancement of the COTS version. Multiply this situation by several customizations and there you have it – an application lifecycle that is virtually unsustainable.

Public safety agencies tend to gravitate to what they are familiar with. And who can blame them? It is a common human trait that may seem harmless on the surface. But in a technologically advancing world, these agencies need to consider that there is one guarantee in technology and that is *change*. If agencies cannot embrace the progressing technology, they may face serious if not dangerous issues in the future.

One area of customization that is typically requested is the creation of reports that follow the same format as legacy paper reports and may even extend as far as requesting "forms based reporting". These legacy reports typically have limited data collections, no place for digital images such as a mug shot, limited space for narration, and lack areas for critical details. This gravitation towards legacy thinking increases software and maintenance costs, requires additional software applications (what is often referred to as "moving parts"), and adds complexity. Agencies often defend paper-based reporting because they feel that they will cut training costs. However, agencies often disregard the fact that paper

itself represents a vast number of liabilities including: the disorganization of filing cabinets and the inability to back up paper reports quickly; the difficulty involved with auditing the access and incremental changes made to paper reports; and printing and storage costs. Essentially paper, what agencies are most comfortable with, is the enemy. The price that is truly paid is by the agency not moving forward to next generation systems and intelligence-led policing.

It is from this type of “one off” requests, the integration of “forms based reporting”, and the gravitation to what feels comfortable to agencies, that software providers are forced to accommodate these legacy principles and bad practices. Any software vendor following these business practices will quickly find themselves cornered into managing a significant number of software versions and will not be able to advance to next generation platforms. It is easy to envision limited progress for the software solution with the development team(s) being deluged with customization requests, bug fixes from all different versions of the system, and additional customization requests on custom versions of the software already delivered. The pattern is familiar, cyclical, and devastating often resulting in the application becoming legacy. These legacy solutions are typically written in languages and development platforms that have become discontinued, cannot be certified for the current desktop and server operating systems, and are often unstable. Legacy products also have poor integration capability and are very costly and difficult to enhance. These issues are often devastating to customers and should not be ignored. For these reasons, it is ultimately to no one’s benefit to deviate from the true nature of a COTS solution.

To solve the issues that arise from customizing COTS solutions, technologically advanced, powerful systems should be built based on a modern vision. This type of software should promise to deliver a litany of benefits that extend far beyond the comfort of a legacy paper report.

Other factors that can contribute to the success of a sustainable application lifecycle are involving consultants that have embraced modern data collecting and have strong systems backgrounds, as well as using project managers that guide agencies away from poor legacy business practices. By embracing these relatively simple concepts, agencies can engage in next generation, real-time, proactive policing. With benefits such as real-time data, real-time federated data sharing, and much more, a truly COTS solution becomes cost effective and readily possible. The “win win” outcome is widespread, as binding to best practices will, without exception, also result in proper application lifecycle to all.

- Al Perez, Total Computer’s Chief Software Architect

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