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## MOVING TO MOBILE: TRENDS, TECHNOLOGY, AND SOLUTIONS

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At the height of the Internet bubble in 1999, the year of In-Q-Tel's founding, it was becoming widely acknowledged that major advances in software were no longer being driven by, or developed for, the government market. This very issue became the heart of IQT's initial mandate: identify software innovations in areas of interest, then adapt and deliver these products for use by our government customers.

In 2011, we see parallels between the software product and platform environment of the late 1990s and the mobile technology space today. Specifically, we see the following similarities: the mobile space has garnered significant investment from large companies as well as institutional and venture investors; there is rapid technical innovation associated with both large and small companies; and the market is largely driven by consumers rather than enterprise customers. As the strategic investor for the U.S. Intelligence Community (IC), it is important for IQT to maintain a deep understanding and awareness of mobile trends, technologies, and solutions. The mobile technology space is important to us because:

- **The unique mission of the U.S. Intelligence Community requires agencies to operate "anywhere, anytime" in a secure, risk-adjusted manner.** This mandate has resulted in the widespread use of wireless technologies — however, these solutions are frequently based upon proprietary technologies or Government Off-The-Shelf (GOTS) equipment and systems. The nearly

ubiquitous coverage and availability of commercial mobile networks, coupled with the accelerating pace of innovation suggests that the IC should, to the extent possible, leverage these technologies to rapidly support IC missions in a more cost-effective manner.

- **The fundamental framework for significant and rapid advances in mobile technology innovation has been established.** The adoption of new wireless 4G standards such as LTE, WiMax, and HSPA will significantly increase mobile network bandwidth, while breathtaking advances in mobile device processor power and display/interface technology is leading to the use of these devices as computing platforms. At the same time, the introduction of intuitive and easy-to-use mobile development platforms and the proliferation of mobile application stores has created an ecosystem for startup companies to quickly and cost-effectively develop novel mobile applications. This ecosystem of capable mobile broadband networks, powerful mobile devices, intuitive development platforms,



and widespread application and content distribution channels will foster growth for a large number of startups in this area, and also serve as a foundation to accelerate innovation and the adoption of mobile technologies.

- **The interconnected world is becoming a reality.** Pervasive networks coupled with technologies like short range wireless communication (i.e. Wi-Fi, Bluetooth, Zigbee), Radio Frequency IDs, and sensor-enabled objects are becoming commonplace. These networks can assist the IC in monitoring and better understanding the environments in which they operate.
- **Recent advances in mobile technologies have been, and will likely continue to be, driven by consumer markets.** Consumer fascination with owning the latest mobile device (smart phones, e-readers, tablets, etc.), exploring the most popular mobile applications (games, video, location/navigation, mobile search, etc.), and communicating via the growing pool of mobile-enabled social networking sites (Facebook, Twitter, Foursquare, etc.), combine with staggering user growth to help drive this surge of consumer-driven innovation. Traditional commercial and government enterprise markets have been left largely on the sidelines and play a limited role in driving mobile requirements in key areas of interest like privacy and security. That said, both commercial and government organizations will require keen insight and focused effort to

develop policies and procedures to govern the use of consumer mobile devices within their enterprise.

- **As the world moves to adopt consumer-driven mobile technologies, the Intelligence Community must weigh the significant benefits of adoption against both perceived and understood security risks.** By judiciously moving from a strategy of “risk avoidance” to one of informed and balanced “risk management,” the IC can also hope to enjoy the benefits and efficiencies of these emerging mobile technologies. This shift has the potential to lead to greater worker productivity, faster and more efficient communications, and the availability of data on demand — truly addressing the “anywhere, anytime” challenge.

The rate of mobile technology innovation has rapidly accelerated since the radio telephone in the 1920s, portable radio transceivers in the 1940s, and the demonstration of the mobile phone and cellular networks in the 1970s and 1980s. Unlike years past, today’s mobile technology innovation occurs in the span of weeks and months versus years. As the articles in this issue of the *IQT Quarterly* demonstrate, there are many rapidly changing mobile technology components that comprise a larger ecosystem, and their adoption within the IC will require keen insight into this space. This issue of the *IQT Quarterly* explores this evolving ecosystem, offers insight, and seeks to serve as a guide for further exploration. **Q**