



IRONHAWK
T E C H N O L O G I E S

Delivering Decision Critical Data

White paper
supporting Airborne
Networking for
OEF Reinforcement

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Using Ironhawk Technologies “SmartSync®”

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The Challenge and Opportunity of Communications to Operational Edge Issue: Current operations, e.g., OEF Reinforcement, as well as future operational success leveraging US technological advantages, are dependent on bringing communications, particularly data, to the warfighting edge. Can an airborne networking layer extend data communications to the warfighting edge? Recommendation: Leverage airborne ISR airborne platform augmentation to add near term edge data/IP communications capability and lay the foundation for sustained protected-edge communications capabilities. Summary: The DOD [in particular the AF] is investing in significant airborne ISR assets with particular attention on UASs [Predator, Global Hawk, and potentially Global Observer], manned aircraft [e.g., MC-12 Liberty Aircraft], and more traditional aircraft [JSTARS, RC-135, etc. as well as non-traditional, F-22/F-35]. This investment is primarily focused on ISR to the battlefield edge, and therefore affords an opportunity to be multi-purposed or re-purposed to support edge C2-communications. Therefore, opportunities exist to deliver near term C2 and ISR capability with airborne networking layer, as well as to lay the foundation for a strategic long-term investment roadmap to support future operations. General Discussion of Environment:

Ironhawk Technologies (formally known as IDC) has developed a COTS product “SmartSync®” a platform that uniquely integrates Data Compression, Content Management and Transport Technologies to Manage the Delivery of Mission Critical Data via Narrowband Communications. This product is listed on GSA as a COTS product in use with the federal government.

The difficulty of maintaining communication systems at the edge of the network in the AOR (both Iraq and Afghanistan) has proven challenging at best. Using an airborne networking layer to deliver light mobile data communications to the warfighter would seem to be a reasonable solution. The main issue that we see in this solution would be the narrowband communication systems in use with Warfighters and tenancy for these systems to “time out” and lose the transmission, causing a restart of the original data transmission. This results in additional man hours and resource to complete these transmissions.

Furthermore, as the planned OEF reinforcements arrive in-theater this situation will only worsen. SmartSync®, which is currently being implemented within the US Army’s tactical business systems can solve this problem and in addition provide additional benefits not currently under discussion. The following is a list of technical benefits that SmartSync® provides:

- SmartSync® Software
- Pluggable/Modular Architecture
- Designed for and operates in harsh, narrowband connected/disconnected network environments
- Small footprint client
- Bandwidth Management
- SmartSync® replication, delta differencing, and compression technology can reduce the bandwidth requirements by as much as 98%
- Storage Impact
- SmartSync® versioning software and storing data in centralized locations can reduce the overall storage requirements by 95%

General concept of implementing SmartSync® into airborne ISR platforms:

Since SmartSync® is a COTS product available now this solution would pose very limited risk to any architecture chosen by the Joint community. Implementation time varies with each product, but generally take less than six months from contract award to delivery for Software Acceptance Testing (SAT). Additionally, since SmartSync® is a software only product there are no hardware requirements associated with using this product. Simply put SmartSync® can be placed on any ISR platform and within the warfighter communication equipment and provide lossless communications in any environment to include the AOR.