

# Transition

**SBIR Topic Number:**

AF03-094

**SBIR Title:**

Innovative Information System Technologies

**Contract Number:**

FA8750-04-C-0102

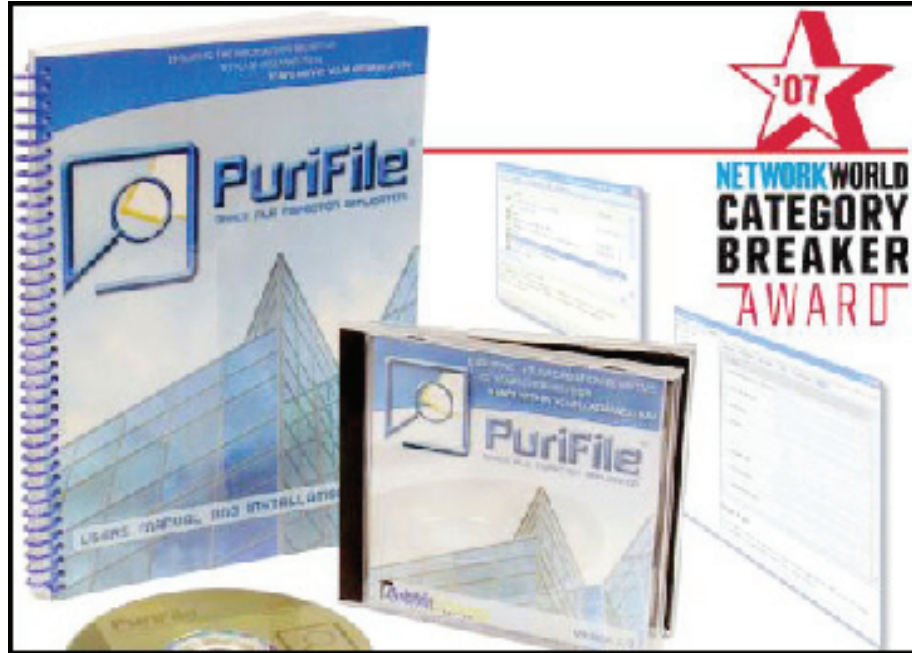
**SBIR Company Name:**

Dolphin Technology, Inc.  
 Rome, NY

**Technical Project Office:**

AFRL Information Directorate  
 Rome, NY

An example of Air Force supported SBIR/STTR technology that has been transitioned into an Air Force or other DoD system or subsystem or used by Air Force test ranges and facilities or maintenance depots.



## Electronic Document File Inspection Application Enhances Information Security

Developed to identify and minimize file vulnerabilities

- With support from the Air Force SBIR program, together with additional funding from the Defense Intelligence Agency (DIA) and the National Security Agency (NSA), an electronic document file inspection application was developed
- Product application is highly configurable, allowing easy introduction into a variety of different environments
- This technology product is currently being integrated into a variety of Cross Domain Solution products such as Information Support Server Environment (ISSE v3.6), the Trusted Manager, and the NSA's Assured File Transfer program
- PuriFile® not only identifies critical metadata hidden within Portable Document Format and Microsoft® files, but also reveals other hidden information placed in applications either accidentally or maliciously

Commercialization Pilot Program Series

AFRL07-0064

**A**

DISTRIBUTION A:  
 Approved for public release; distribution unlimited.

## Air Force Requirement

Commercial off-the-shelf software applications often contain vulnerabilities that can adversely impact the user. For instance, both Microsoft® Office file formats (Word, PowerPoint, and Excel) and Portable Document Format (PDF) files have many ways data can be hidden within them. This information can exist superficially, such as through metadata which discloses details about the author(s) or when and where the document was created. It can also exist at much deeper and subtler levels, such as information that remains in a file after deletion, or having a white font against a white background. The list of different ways information hiding can occur is long and complex and it can occur both inadvertently or maliciously.

The result is a security problem that cannot be effectively addressed through normal human review cycles. Numerous examples exist where this vulnerability has already caused significant problems in the field, not only for the Air Force, but across the entire Department of Defense (DoD) and intelligence communities.

## SBIR Technology

Through their involvement with the Information Support Server Environment (ISSE) program, Dolphin Technology, Inc. has long been familiar with security issues related to document exchange across security boundaries, and they brought their expertise to bear on this problem. Initially started as the Microsoft Office File Inspection Application (MOFIA) initiative, the resultant product, PuriFile®, not only does a full inspection of Microsoft files but can also be used for inspecting other vendor file formats, such as PDF. In addition to checking for all metadata and object related concerns, it also includes a robust dirty word scan.

The PuriFile engine is installed on a single machine at a customer site. This approach minimizes installation footprint issues, while also providing centralized control and audit functions. File inspections are available through any normal web browser, as well as directly from the Word, PowerPoint, and Excel programs themselves. This add-in "Assistant" capability not only reports on the results of an inspection, but also provides tools that will assist in the correction of the security problem and perform some broad cleansing functions. Further information is posted at [www.purifile.com](http://www.purifile.com).

## Transition Impact

PuriFile is highly configurable, allowing easy introduction into a variety of different environments. Through a robust Application Programmer Interface (API), the product is now being integrated into a variety of Cross Domain Solution (CDS) products such as ISSE, the Trusted Manager (TMAN), and the National Security Agency's (NSA) Assured File Transfer (AFT) program, to name a few.

Recognizing the importance of this effort to address their specific functional requirements, additional SBIR funds were provided by both the NSA and the Defense Intelligence Agency (DIA).

Through the use of PuriFile, security reviews of PDF and Office documents are repeatable and efficient, allowing for more reliable and effective communications. Benefits from PuriFile are not limited to just Air Force installations. In addition to distribution as part of several CDS products, Dolphin has worked with Red River Computer Corporation to deploy the product across several organizations in the DoD and IC.

The end result is a significant improvement in document security across numerous branches of the government.

## Company Impact

The success of this effort is recognized not only as a technical achievement, but also as a business one. Dolphin has invested heavily into the commercialization of the product, establishing a strong web presence through the PuriFile website and by attending conferences in the private sector. These efforts culminated in the recent selection of PuriFile as an outstanding product in the February 2007 issue of Network World Magazine. Winn Schwartau, a noted industry analyst, selected PuriFile as a "Category Buster," saying "Users from the enterprise, government, and home really have no idea of the security risks they face when using Microsoft Office . . . and worse . . . Microsoft doesn't disclose the vulnerabilities in a way that makes sense to non-techies. I became an instant fan of PuriFile!"

Through this and related SBIRs, we are seeing significant new business opportunities open up for Dolphin, while maintaining our focus on information security issues.

Jack LoSecco  
President  
Dolphin Technology, Inc.  
[www.dolphntech.com](http://www.dolphntech.com)  
(315) 838-7000



# SBIR/STTR

Air Force SBIR Program  
AFRL/XR  
1864 4th Street  
Wright-Patterson AFB OH 45433

AF SBIR/STTR Program  
Manager: Steve Guilfoos  
AF CPP Program Manager: Richard Flake  
Website: [www.sbirsttrmall.com](http://www.sbirsttrmall.com)  
Comm: (800) 222-0336  
Fax: (937) 255-2219



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