



Message and Document Classification

Advantages for US DoD

Whitepaper

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Classify-Manage-Control

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At Titus Labs we work to help businesses better manage and secure valuable corporate information. Our focus is on building policy management solutions that make it easier for IT administrators to protect and manage corporate correspondence including email and documents.

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Introduction

Titus Labs has developed a complete family of classification solutions for Microsoft Outlook email and Microsoft Office documents. These message and document classification tools offer many advantages, as will be outlined in this whitepaper. Titus Labs' classification solutions are *interoperable* – an important feature that is not available from any other vendor in the market and one that can be used to DoD's advantage. Titus Labs currently offers classification tools for Microsoft Outlook messages (Message Classification), Outlook Web Access messages (Message Classification Web Access), and Microsoft Office documents (Document Classification for Microsoft Word, PowerPoint and Excel). Our Outlook Web Access and document classification solutions are unique to the industry and are currently deployed across key commands.

Interoperable Classification Solutions

Titus Labs offers solutions for classifying information created with select Microsoft Office products. Because the Titus Labs solutions are available as commercial off the shelf "COTS" solutions, DoD would not need to invest in the development and support of classification solutions. The Titus Labs classification solutions provide a simple common toolbar, thus greatly reducing training costs.

Classifications are interoperable across the solutions in order to ensure that information spillage does not occur. For example, when documents that have been classified by Titus Labs Document Classification are attached to an email message, the message will always reflect the highest classification of any attached document. Taking this a step further, this feature is extended to the individual paragraph level. For example, a user that classifies and marks a document paragraph as "SECRET", and attaches it to an email, can be assured that the paragraph marking will be automatically rolled up to the email message marking.

Scalability and Interoperability

Titus Labs has designed its classification solutions to be fully scalable in order to accommodate very large enterprises like the DoD. The classification solutions can either be managed centrally, or administration can be distributed amongst a select team of administrators. The client software can also be deployed using deployment tools such as IBM Tivoli or Microsoft Systems Management Server. The software can be turned on or off on an individual or group basis in order to deploy the solution throughout the enterprise in a controlled manner.

Instead of requiring a separate administration server, the Titus Labs classification tools leverage Microsoft Active Directory Group Policy for centralized configuration. This

allows organizations to take advantage of their existing infrastructure, rather than deploying and maintaining additional hardware and software. The desktops configurations can be easily updated by the administrator and pushed out to all users.

A well-supported COTS solution also provides DoD with a classification platform that can be configured to be interoperable with other DoD and defense organizations without requiring inter-organizational infrastructure support. For example, if the military needed to exchange sensitive email or documents with other organizations such as combatant or major commands, or NATO, they would be able to do so easily by establishing inter-organizational classification standards. Federated trusts can also be established between partner organizations to enhance shared security methods such as Microsoft Rights Management Services (RMS).

Support & Maintenance

As an independent software vendor, Titus Labs has a dedicated support team focused on classification solutions. This team is available to support DoD for deployment and maintenance of the classification solutions. The Titus Labs support team works with DoD administrators to resolve issues with any of the Titus Labs solutions. Titus Labs guarantees a 24-hour initial response to any reported problems. By using a COTS solution, DoD does not incur the costs associated with staffing and maintaining an internal support organization. Titus Labs' support team is dedicated to supporting the DoD administrators that would be responsible for rolling out the classification solutions. DoD customer referrals are available that attest to our support team's responsiveness and ability to resolve issues.

As a Microsoft Gold Certified Partner with security and messaging competencies, Titus Labs has access to beta releases of the Microsoft desktop and server software prior to their general release. This allows us to work with Microsoft to ensure new releases of Microsoft software do not affect the Titus Labs solutions, or impact the DoD's mission-critical messaging.

Government developed classification solutions have several disadvantages. For example, further development and maintenance of a government developed solution may be dependent on an unrelated organization's budget constraints. In mission-critical systems, such as email, it is vital that the maintenance and support of a solution is not subjected to budgetary or resource constraints of another agency but, instead, are built into the solution plan. In addition, problems may arise with software that is designed and custom-built by contractors. When the contractor leaves the organization, there may no one with the skill set or knowledge to support the custom-built tool. In the case of a COTS solution the knowledge is associated with the organization, not with an individual. This means that the knowledge of the product is maintained within the company. The COTS

vendor is also contractually obligated under maintenance agreements to support their software on an ongoing basis providing legal assurance to their customers.

Upfront purchase costs are often the primary focus of an assessment when comparing COTS to government built solutions. However, when evaluating software solutions, the Total Cost of Ownership (TCO) should be compared. TCO considerations for software include: initial development costs, the cost of future enhancements that may be required, additional annual development costs, administration and training costs, the cost to develop interoperability between applications and also the costs to maintain scalability of the solution. These costs can add up to as much as 50% to 70% of a software system's TCO over its useful life¹.

“To begin with, it appears that the price of software itself -- whether it's free or not -- is so low relative to the TCO that it may have little impact on the outcome of IT investment decisions for many purchasers. In most cases, the price of software proved to be less than 10% of the total cost of ownership. Where costs do become significant for all types of software is in the level of staffing needed. Staffing includes activities such as maintenance, support, administration and other personnel costs necessary to run the software package efficiently. These costs can add up to as much as 50% to 70% of a software system's TCO over its useful life.”²

Classification & Microsoft Development Experience

By using a commercial off the shelf solution, DoD benefits from best-of-breed practices gleaned from other enterprise customers. Titus Labs has been able to analyze feedback from extensive military, defense industry, government, police and commercial customers to ensure that end users have the best user experience possible. By adopting the Titus Labs classification solutions, DoD is able to benefit from the dynamic feedback provided by these ongoing industry relationships.

Solution Features

Titus Labs classification solutions have many features that will help DoD classify its sensitive information. The Titus Labs products can be used as stand-alone solutions for email or document classification, or can be used together as a powerful integrated solution that helps prevent spillage of information. This section highlights some of the features of the Titus Labs solutions for Microsoft Outlook, Outlook Web Access (OWA), Word, PowerPoint and Excel products.

¹ From COMPUTERWORLD, May 29, 2003 *The True Costs of Software*

² From COMPUTERWORLD, May 29, 2003 *The True Costs of Software*

Titus Labs Message Classification – Standard Edition (TMCS)

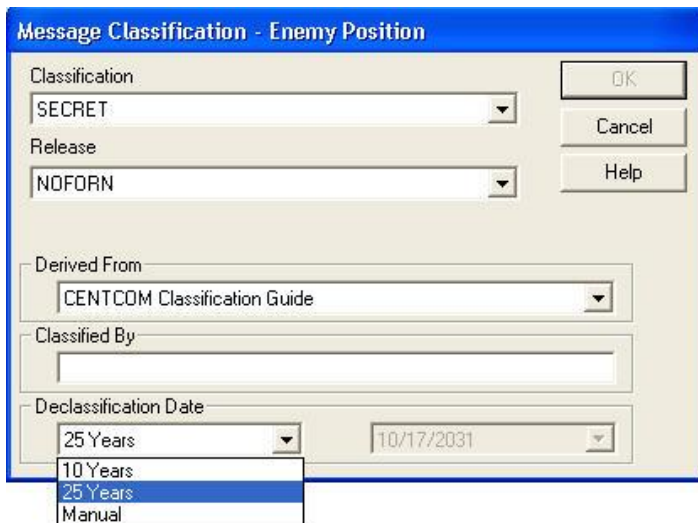
Titus Labs Message Classification is our entry level classification tool for messaging. TMCS can be configured to allow the user to select two classification properties, one to assign a classification (UNCLASSIFIED, SECRET etc) and one to apply a caveat (FOUO, NOFORN etc). These two levels of classification are fully customizable. The second level of classification can be enabled or disabled based on the selection of the first level of classifications. An optional signature or disclaimer can also be applied at the bottom of the message. In addition, TMCS offers many distinguishing features:

- Installed as an MSI file which can be used in automated install from a software distribution tool or Microsoft Group Policy
- Can be centrally configured and enabled/disabled via Microsoft Group Policy. Server or network outages will not affect the ability to use Titus Labs classification solutions
- Works when Microsoft Word is used as the email editor for Outlook (Wordmail)
- Metadata is created and can be displayed in the Outlook Inbox to allow sorting by classification property
- Classification and caveats related to messages can be used to search within the Outlook Inbox
- Prevention of Spillage - Avoid inadvertent disclosure and spillage of classified messages. (TMC creates searchable message properties using the values of the selected classifications. For example, administrators can use search tools to quickly locate any messages marked as SECRET on a network. This method can be automated and used to quickly detect any spillage in an unclassified network such as NIPRnet)
- Allows classification of calendar appointments in Outlook
- Can prevent sending if classification is downgraded on Reply/Forward
- Can warn if classification is downgraded on Reply/Forward
- User can be forced to select a classification before message is sent
- Can force selection of caveat marking
- Visual labels can be inserted before and/or after the subject line and message body, and can be customized to meet marking standards such as CAPCO.
- Metadata can be used to automatically invoke existing infrastructure technology like Microsoft RMS, encryption and archival solutions

Titus Labs Message Classification – Enterprise Edition (TMCE)

Titus Labs Message Classification – Enterprise Edition is the advanced classification solution for email that builds on the functionality of TMC - Standard. TMCE allows the user to add up to six levels of markings. The markings are customizable to the organization's requirements. Some examples of possible markings include the classification, caveat, declassification date, derived from and classified by information.

These markings and classifications can be used to restrict the sending of email to those users who do not have the appropriate clearance, preventing spillage of sensitive information and thereby minimizing down time that is incurred when networks must be sanitized.



TMCE provides other advanced features such as automatic S/MIME encryption of email based on the classification selected. This automatic encryption provides enhanced message security for DoD organizations. In addition, TMCE provides “trusted domain” and “safe recipient” capabilities. These capabilities can help ensure that messages can only be sent to appropriate recipients. This results in improved information assurance, significant productivity increases and reduced sanitization expenditures for the DoD.

TMCE was used in the SISA (Secure Information Sharing Architecture) pilot project at CENTCOM to facilitate the controlled and secure sharing of information between coalition partners. TMCE’s dynamic labeling capability ensures that coalition members are presented only with the classifications that are appropriate to their nationality. In addition, messages labeled for a particular coalition (i.e. – REL US UK) are not able to be sent to members that are not part of that coalition. This means that only those with a “need-to-know” are able to receive and access information.

Titus Labs Message Classification – Web Access (TMCWA)

Titus Labs TMCWA solution allows administrators to enforce classification policies for all Outlook Web Access (OWA) users. This ensures that users are forced to classify email messages no matter how or where they access their email. The features included in TMCWA function in the same way as the TMC Outlook client to prevent downgrading of email, and to force classification of email across the organization. Each of the Message

Classification solutions from Titus Labs leverages the same classification metadata, allowing the classifications to be read and enforced by each other.

TMCWA is another example of a classification solution from Titus Labs that is unique to the industry. The ability to classify messages created in both OWA and in the Outlook client ensures that classifications are persistent, which improves the level of information assurance throughout the DoD enterprise.

Titus Labs Document Classification Suite (TDC)

Titus Labs offers classification solutions that can also force the classification of information created in the Microsoft Office Suite for Word, PowerPoint and Excel. Each of the TDC solutions embed custom document properties (or metadata) that can be used to search for documents based on their classification. These searches can be conducted on workstations, across network shares or in a Microsoft SharePoint Document Library.

Incidents of inadvertent disclosure and spillage of classified documents can be greatly reduced using TDC solutions. Once selected by the user, the document's classification is stored as a custom property of the document. These embedded properties can be used with standard MS Office search tools. For example, administrators can use the Microsoft Word File Search tool to quickly detect any spillage of SECRET documents on an unclassified network such as NIPRnet.

DoD administrators can customize the software to force users to make a classification – a feature that is consistent with the Titus Labs messaging solutions. Users will not be able to save or print a document until a classification has been assigned. Once the user indicates the classification of the document (e.g. – CONFIDENTIAL or SECRET) it is automatically reflected in the header and/or footer of the document. The header and footer are completely customizable by the administrator, allowing the organization to enforce consistent font, color, location and text for document markings. Administrators can optionally add document watermarks that can contain both the classification and the name of the current user. This increases user awareness and improves appropriate handling of sensitive printed documents.

Document Classification for Microsoft Word provides advanced classification and document protection features that are unique to the industry. Through the use of Microsoft smart tags, the product can automatically scan a document and warn the user when a word or phrase may be inappropriate for the current classification. The user's classification selection can also be used to automatically clean the document of sensitive and hidden information, thus helping to prevent information leaks. The product also

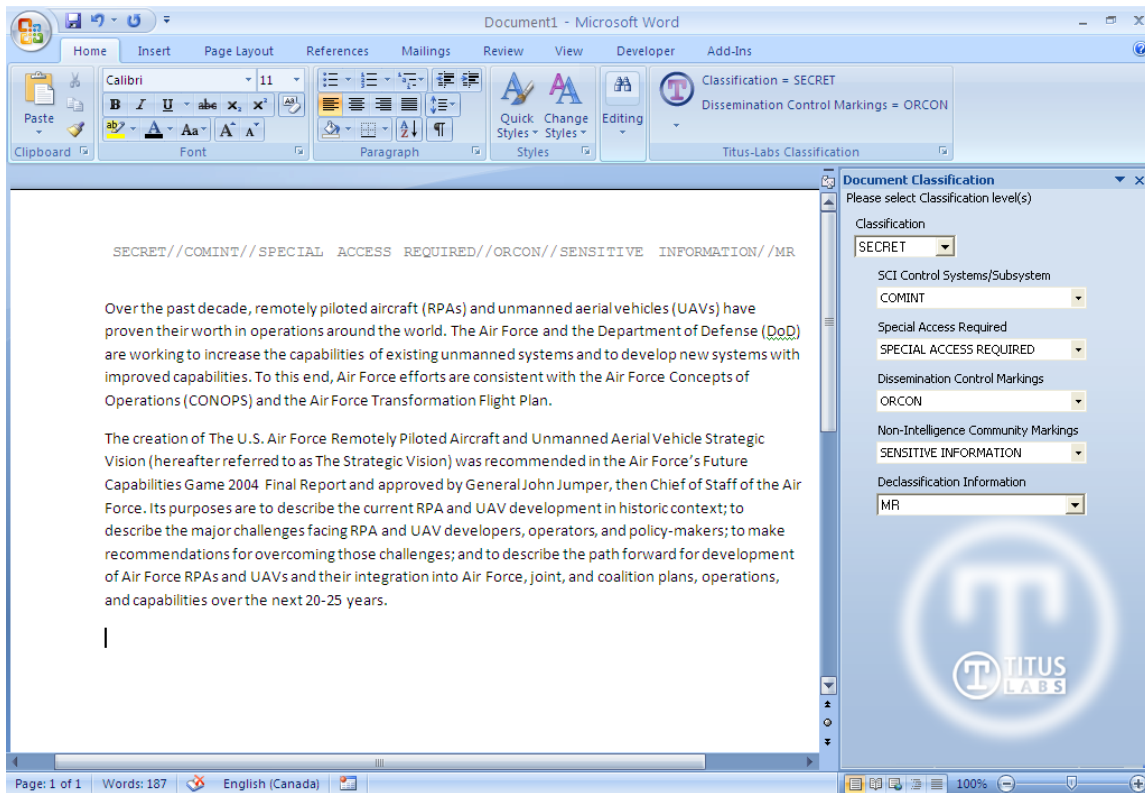
supports the marking of individual portions of a document, helping to draw attention to particularly sensitive sections.

Titus Labs and CAPCO

Titus Labs products help enforce consistent and accurate classification markings that comply with the Controlled Access Program Coordination Office (CAPCO) marking guidelines. The Titus Labs solutions make it simple for users to select the correct classifications even without in depth knowledge of the CAPCO standard. The products display the correct label combinations by using hierarchical menus, and prevent user errors caused by too many choices. The complexity of the CAPCO standard is condensed into simple, user-friendly dropdown menus, and visual markings are applied according to the CAPCO guidelines.

With the content markup (portion marking) feature, users can mark individual portions of a document. The document's classification will be automatically upgraded based on the highest classification used in portion marking. For example, a CONFIDENTIAL document with SECRET portions would be upgraded to a SECRET document. Classifications are stored as XML tags, which makes it possible to redact sensitive information from the document.

As shown in the following Titus Labs screenshots, documents and emails are clearly marked to eliminate any doubt or uncertainty regarding the classification status of the information.



The screenshot shows a Microsoft Word window titled "Document1 - Microsoft Word". The ribbon includes Home, Insert, Page Layout, References, Mailings, Review, View, Developer, and Add-Ins. The Font section shows Calibri, 11. The Paragraph section shows various alignment and spacing options. The Styles section shows "Quick Styles" and "Change Styles". The Document Classification pane is open on the right, showing the following settings:

- Classification: SECRET
- SCI Control Systems/Subsystem: COMINT
- Special Access Required: SPECIAL ACCESS REQUIRED
- Dissemination Control Markings: ORCON
- Non-Intelligence Community Markings: SENSITIVE INFORMATION
- Declassification Information: MR

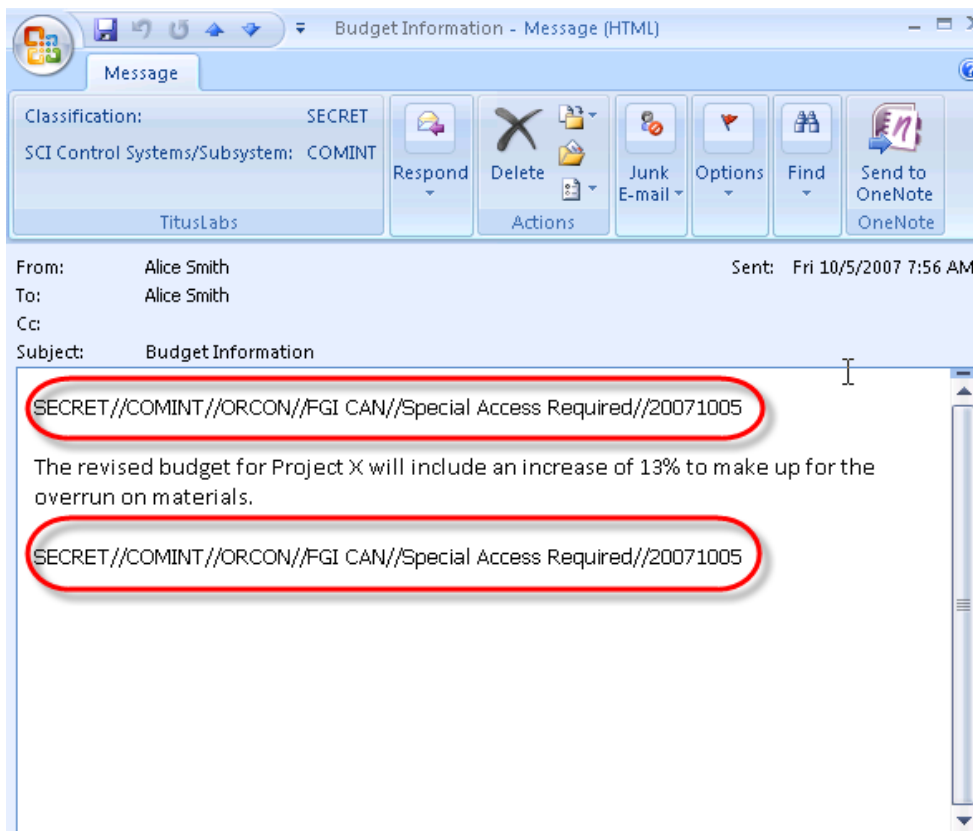
The document content includes the following text:

SECRET//COMINT//SPECIAL ACCESS REQUIRED//ORCON//SENSITIVE INFORMATION//MR

Over the past decade, remotely piloted aircraft (RPAs) and unmanned aerial vehicles (UAVs) have proven their worth in operations around the world. The Air Force and the Department of Defense (DOD) are working to increase the capabilities of existing unmanned systems and to develop new systems with improved capabilities. To this end, Air Force efforts are consistent with the Air Force Concepts of Operations (CONOPS) and the Air Force Transformation Flight Plan.

The creation of The U.S. Air Force Remotely Piloted Aircraft and Unmanned Aerial Vehicle Strategic Vision (hereafter referred to as The Strategic Vision) was recommended in the Air Force's Future Capabilities Game 2004 Final Report and approved by General John Jumper, then Chief of Staff of the Air Force. Its purposes are to describe the current RPA and UAV development in historic context; to describe the major challenges facing RPA and UAV developers, operators, and policy-makers; to make recommendations for overcoming those challenges; and to describe the path forward for development of Air Force RPAs and UAVs and their integration into Air Force, joint, and coalition plans, operations, and capabilities over the next 20-25 years.

The status bar at the bottom shows "Page: 1 of 1", "Words: 187", "English (Canada)", and "100%".



Conclusion

Titus Labs’ solutions provide industry-leading off-the-shelf classification functionality for Microsoft Office products. These email and document classification solutions are completely interoperable. They are scalable and fully configurable to individual Command needs while still providing enterprise-level classification for DoD.

Comparing the acquisition costs of a COTS solution with a custom built in-house solution would not reflect the total cost of ownership of the solutions. The total cost of ownership has to reflect many factors. The costs associated with funding a group to maintain and support a custom solution for hundreds of thousands of users would be significant for the DoD. This would require the training and staffing of contractors, civilian or military employees to support the solution. Any in-house GOTS solution would also need to be funded to address urgent fixes and to develop future enhancements. Finally, DoD would not want to be dependent on the funding of a particular unit, which may be subject to budget constraints, to support DoD-wide requirements.

Increasingly, DoD commands such as STRATCOM and CENTCOM, as well as in theatre units such as MNF-I are turning to Titus Labs to deliver a cost effective solution

to classify, manage and control sensitive information and to help prevent inadvertent leakage of critical information.

For more information on Titus Labs Classification solutions

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