Manual Asset Inventory

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The National Aeronautics and Aerospace Administration (NASA) relies in the security and protection of the information and information systems to know the devices that are connected to the Agency networks whether these are business, mission, research, or engineering devices. The Agency uses different Information Technology resources in order to do this process automatically, however, there are some devices that need to be reported manually.

As a result of this, every month the Agency distributes among its Information System Owners (ISO's) the *Manual Asset Inventory*, a document that consist in a *Microsoft Excel*® spreadsheet with twenty field descriptions cells that has to be filled out by the ISO of every *Security Plan* in the Center [fifty three in total] and uploaded into the IT Security Enterprise Data Warehouse (ITSEC-EDW).

Introduction

Kennedy Space Center, NASA, has an inventory of approximately 7,285 devices connected to the agency's network that cannot provide automated reporting, hence, these devices have to be reported manually through the *Manual Asset Inventory*.

The Manual Asset Inventory is done through a *Microsoft Excel*® spreadsheet that consists of twenty different field description cells. Eleven of them require information from the ISO that is unique for every device (e.g., Compute Name, IP Address, Location, etc.), while the remaining nine require information that is common and can be applied to different devices (e.g., Operating System Name, Operating System Version, etc.).

Unique Information	Common Information
Organization	Center
Computer Name	Device Type
System Description	Is Patched
Location	Operating System Name
IPv4 Address	Operating System Version
IPv6 Address	Operating System Arch
Email POC	Is Air Gapped
System Security Plan	Is Security Config. Applied
Media Access Control	Is CVE Scanned
Asset Tag	
FQDN	

Table 1. Types of information [Field Description Cells].

Center	Organization	ComputerName	FQDN	IPv4Address	DeviceType	OSName	OSVersion	OSArch	SystemSecurityPlan	EmailPOC	IsPatched	MAC	Tags	IPv6Address	SystemDescription	Location	IsAirGapped	IsSecurityConfigApplied	IsCVEScanned

Fig. 1. Manual Asset Inventory spreadsheet [current version].

All these field description cells have to be populated manually by the ISO, leading the ISO to create different variants for the same data inputted.

Due to the deficiencies obtained in The Manual Asset Inventory currently in use, and the inability to obtain accurate information quickly, the Center decided to
create a more efficient version of the spread sheet.

OS Name
Microsoft Win XP Pro
Microsoft Win XP Professional
Microsoft Win ® XP Pro
Microsoft Win ® XP Professional
Microsoft Windows XP Pro
Microsoft Windows XP Professional
Microsoft XP Pro
Microsoft XP Professional
MS Win XP Pro
MS Win XP Professional
MS Windows XP Pro
MS Windows XP Professional
MS XP Pro
MS XP Professional
Win XP Pro
Win XP Professional
Windows XP Pro
Windows XP Professional
WinXP Pro
WinXP Professional
XP Pro
XP Professional

Fig. 2. Different variants of the same data [current version].

CENTER	ORGANIZATION	COMPUTER NAME	FQDN	IPv4 ADDRESS	SYSTEM SECURITY PLAN	OS NAME	OS VERSION	OS ARCH	DEVICE TYPE	EMAIL POC	IS PATCHED	MAC	ASSET TAG

Fig. 3. Manual Asset Inventory spreadsheet (required Field Description Cells—color coded RED) [new revision].

IPv6 ADDRESS	SYSTEM DESCRIPTION	LOCATION	IS AIR GAPPED	IS SECURITY CONFIG APPLIED	IS CVE SCANNED

Fig. 4. Manual Asset Inventory spreadsheet (optional Field Description Cells—color coded YELLOW) [new revision].

Objectives

The purpose of the new revision is to congregate all the information populated into the spreadsheet by the ISO, and locate it in a series of drop-down menus along the nine field description cells [common information] in order to standardize the filling out procedure and make this new revision more *user friendly.*

Additionally, a set of information boxes describing each one of the field description cells were added, to help the ISO to fill out the spreadsheet correctly for a consistent result.



Fig. 5. Drop-down menus and information boxes [new revision].

A problem during the upload of the spreadsheet into the ITSEC-EDW was experienced; two of the twenty field description cells [MAC and FQDN] were showing an error when more than thirty two characters were inputted in the field description cells, for this reason an *error alert* was implemented to prevent this problem.

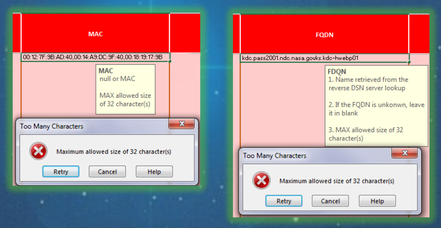

Fig. 6. 'Error alert' implemented [new revision].

Results

As a result of these improvements, not only the risk of filling out the form incorrectly was mitigated; but also the goal of improving the data consistency was accomplished.

OS NAME	OS VERSION
Microsoft_Windows	XP_Professional
Microsoft_Windows	XP_Professional
Microsoft_Windows	XP_Professional
Microsoft_Windows	XP_Professional
Microsoft_Windows	XP_Professional
Microsoft_Windows	XP_Professional
Microsoft_Windows	XP_Professional
Microsoft_Windows	XP_Professional
Microsoft_Windows	XP_Professional
Microsoft_Windows	XP_Professional
Microsoft_Windows	XP_Professional
Microsoft_Windows	XP_Professional

Fig. 7. Improvement (data consistency) [new revision].

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Another important improvements found in the new revision are:

- The *Cover Page*, It has a reminder note to the user and a hyperlink to access the *Manual Asset Inventory* PDF file for instructions reference.

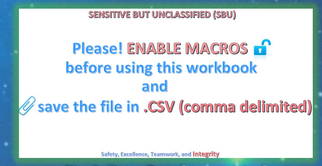

Fig. 8. Cover Page [new revision].

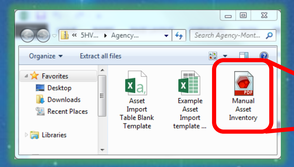

Fig. 10. *Manual Asset Inventory* PDF file location.

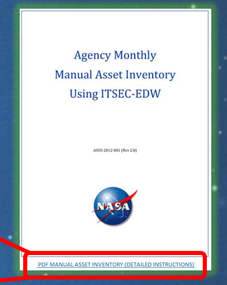

Fig. 9. Hyperlink (part of the Cover Page) [new revision].

- *Copy-Paste* command [disabled], It has been disabled to prevent the user to copy data from other spreadsheets and make mistakes.

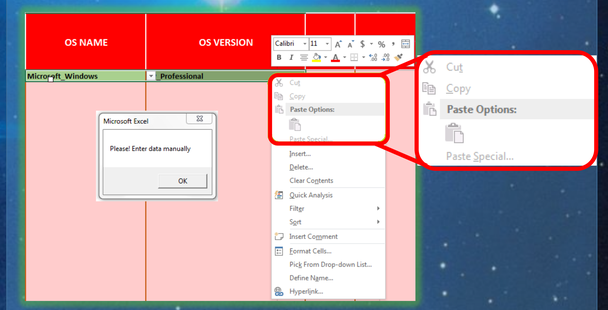

Fig. 11. Copy-Paste command shown disabled and "information alert" implemented [new revision].

Conclusions

The new version of the Manual Asset Inventory is still under development [beta version] and is being tested by the team in Information Technology Security branch (IT-B). The team has already observed an enormous improvement compared to the prior version, providing a significant increase in its functionality, saving time and money not only to the Center, but eventually to the whole Agency.

References "NASA Agency Monthly Manual Asset Inventory Using ITSEC-EDW". *ASUS-2012-001 (Rev 2.8).*
"The Pleiades" Hubble Space Telescope: M45. *http://www.pleiade.org*