



DICOS

The DICOS Interoperability Standard: What is it? Why is it important? Why do vendors support it?
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Summary

- Space :
 - *EDS interoperability*
- Problem
 - *Proprietary network solutions and data formats lead to a fragmented solutions space without common tools and third party options for end users*
- Solution
 - *Standardization of network services, protocols and data formats via DICOS*
- Results to Date
 - *Standardization of image format and detection results via Stratovan DICOS toolkit*
- TRL
 - *Level 6. System/subsystem model or prototype demonstration*
- Contact Information
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DICOS

What is it?

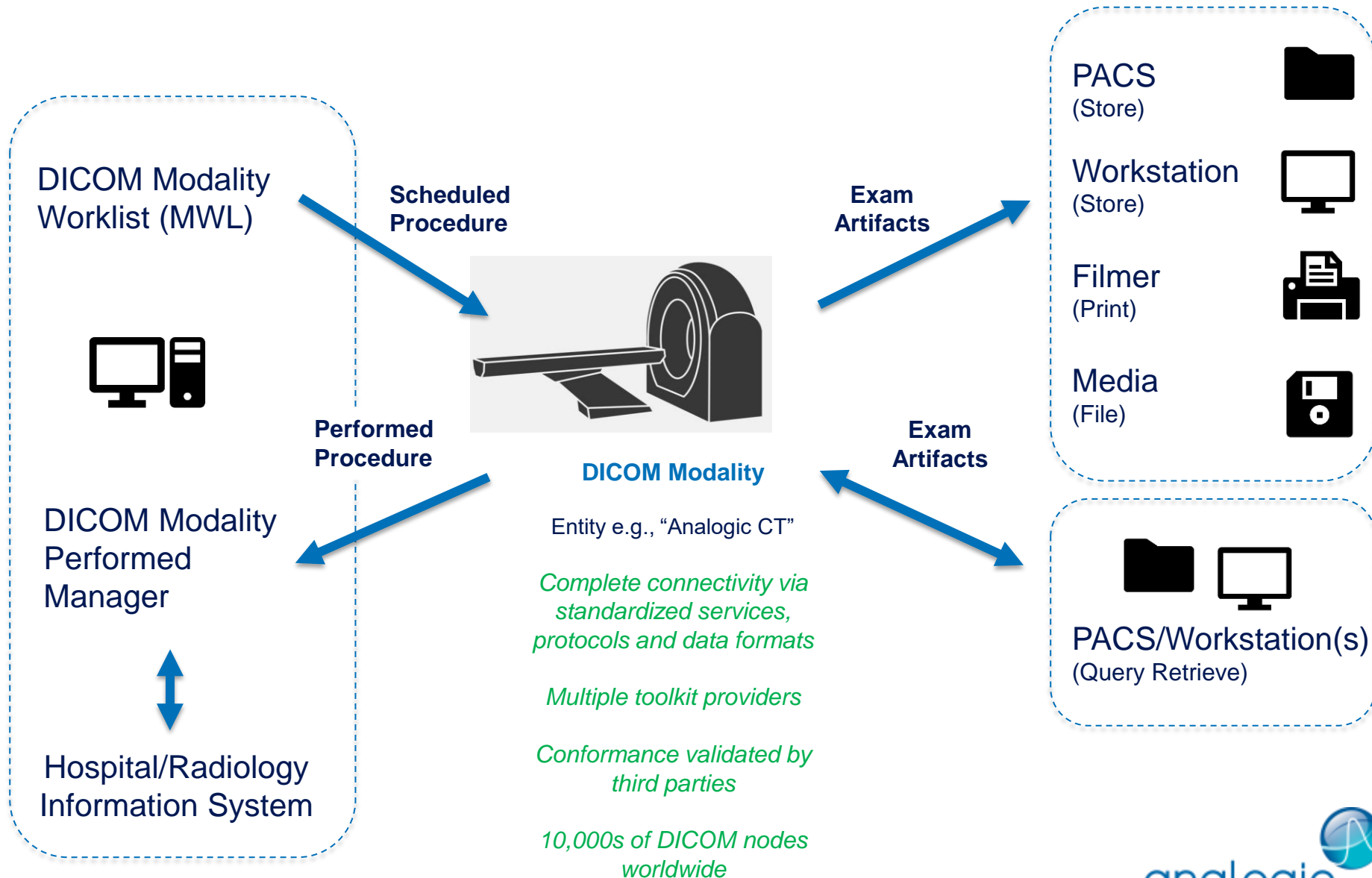
- Digital Imaging and Communications in Security
- DICOS is conceptually similar to the Digital Imaging and Communications in Medicine (DICOM) standard
- It provides a data interchange protocol and interoperable, extensible file format to facilitate data information of objects of inspection (checked luggage, carry-on luggage, parcels, and personnel, etc.) for security screening applications. *NEMA standard definition.*
- Interoperability
 - *The ability of different information technology systems and software applications to communicate, exchange data, and use the information that has been exchanged* *See <https://www.himss.org/library/interoperability-standards/what-is-interoperability>*

DICOS

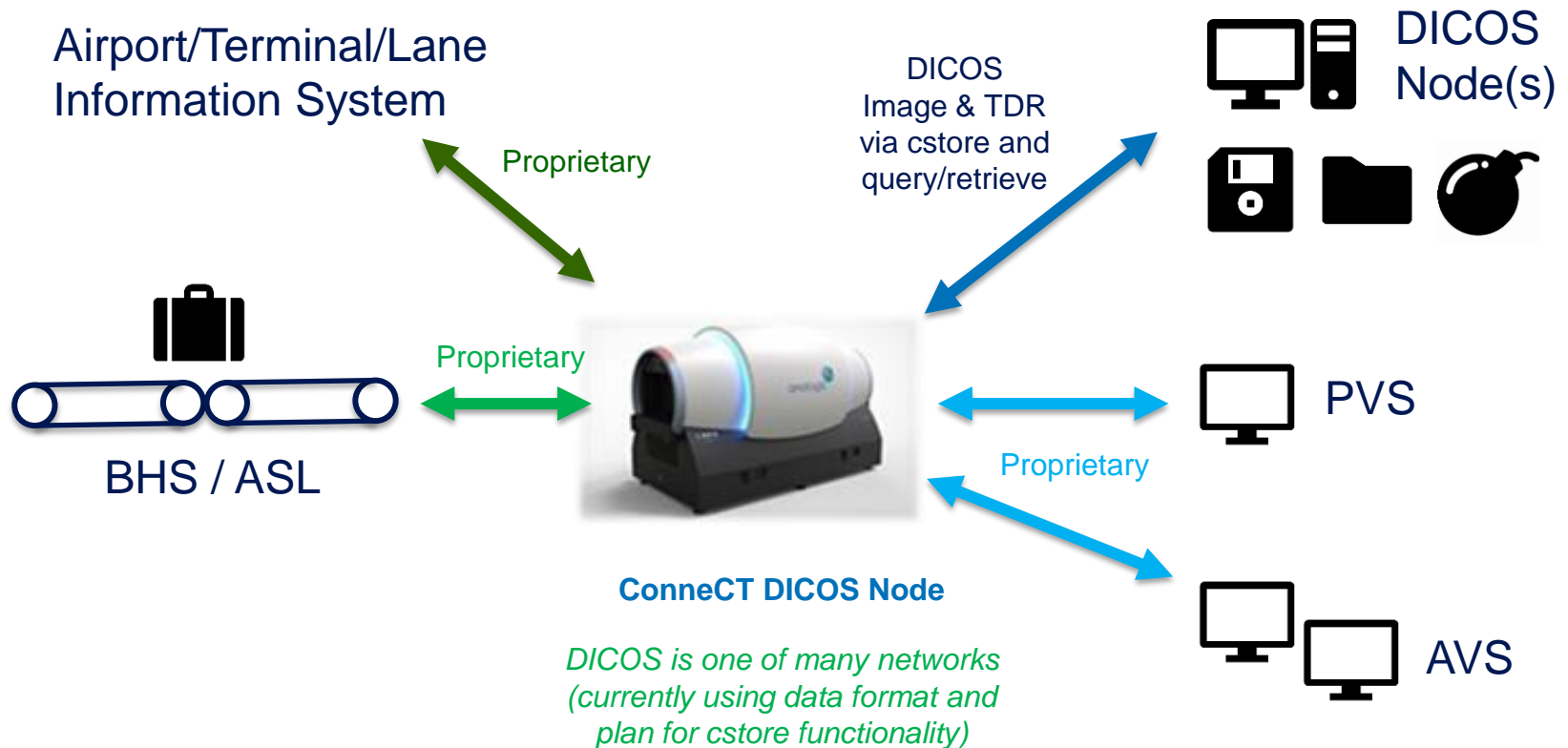
Why is it important and why should vendors support it?

- Our customers want it
 - Interoperability supports the desire of end customers for equipment and software choices
 - TSA is prescribing DICOS capability in recent Checkpoint CT procurements
 - ROW customers are sure to follow
- It should reduce the complexity and cost of airport solutions
 - Security solutions benefit from networking
 - Lack of standardization fragments solutions and is inefficient, adding an additional burdens on security equipment operators
- It provides a path to integrate third party solutions
 - Market for storage, workstations, media export and detection applications limited by lack of interoperability
- It has created an expectation for DICOM like capabilities from Security Equipment
 - The standard is well named. The pervasive use of DICOM reinforces the pull for DICOS to be adapted.

DICOM (modality perspective)



DICOS (ConneCT perspective)



ConneCT DICOS Node

*DICOS is one of many networks
(currently using data format and
plan for cstore functionality)*

One toolkit provider

Conformance process part of toolkit

*Limited field deployments and
adopters*

DICOS pros and cons

- Positives

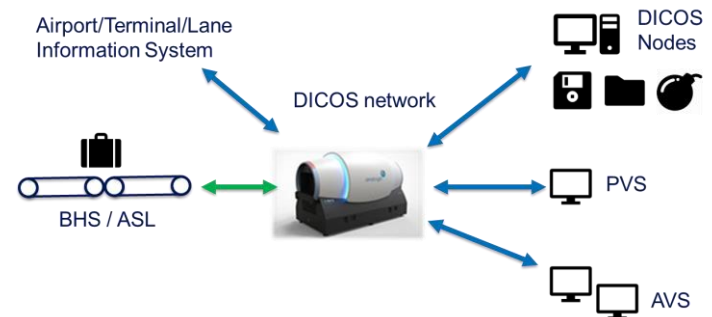
- Common data transport mechanism and standard data formats across products
- Lower cost to integrate with other components (e.g., third party workstations)

- Negatives

- Uproots significant legacy software investments
- Current toolkit services do not map to all EDS needs
- Toolkit is still in development
- Expertise with toolkit is limited
- Cost \$\$\$ to participate in NEMA standards development process is high

DICOS Wish List

- Conformance of Stratovan toolkit to 2A standard (in process)
- Enhancements
 - Improved & more flexible data compression options
 - Multi-frame CT volume storage with real-time data streaming
- Add DICOS capabilities to support
 - Additional data formats (e.g., raw)
 - Network management
 - Image routing
 - Airport IT system integration



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