

Department of the Air Force Information Technology & Cyberpower (DAFITC 2022)

Track 2 – A Digital Air and Space Force
Digital Twin – Software-Defined Evolution

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Digital Air and Space Force



Not what digital is, but what digital is capable of



Concept

Digital Twin

What is Digital Twin?

A software replica of an operational/functional entity



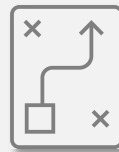
1 for 1

An exact replica of an operational/functional entity



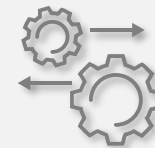
Process

Behaviors / Anticipated Actions



Component /
Subcomponent

Individual (sub)component specifications



Why Digital Twin?

Mission Focus

Optimize Lifecycle Overhead

Increase Innovation



Dynamic Delivery

Enterprise-as-a-Service

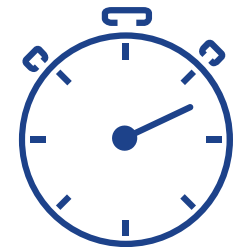
Dynamic Catalog



Disruptive Efficiency

Agile

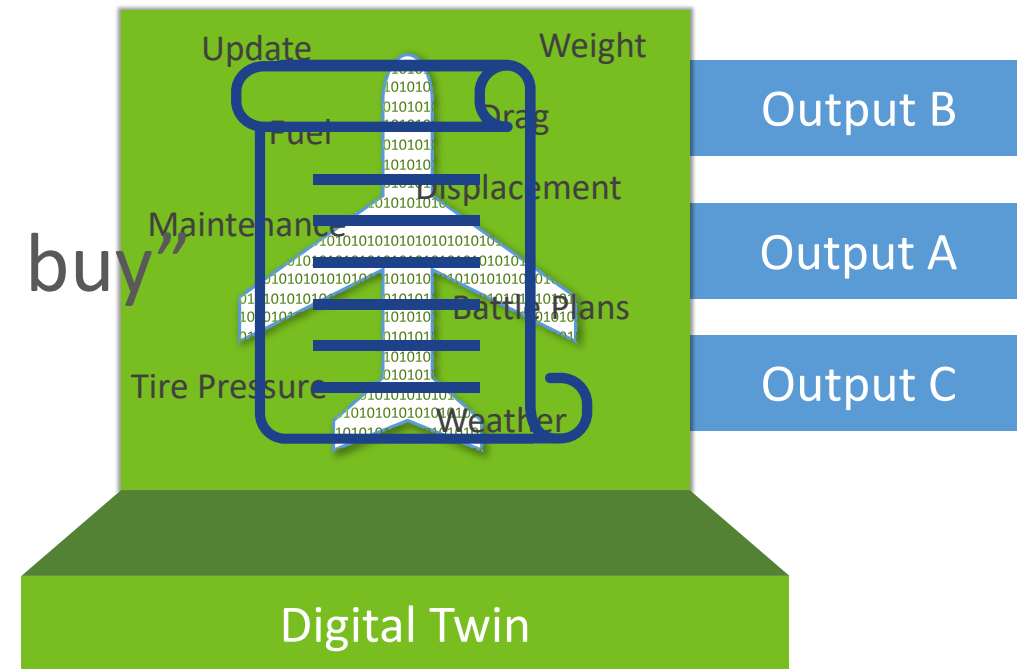
Governance





Funding
Manpower
Time
Manual Processes

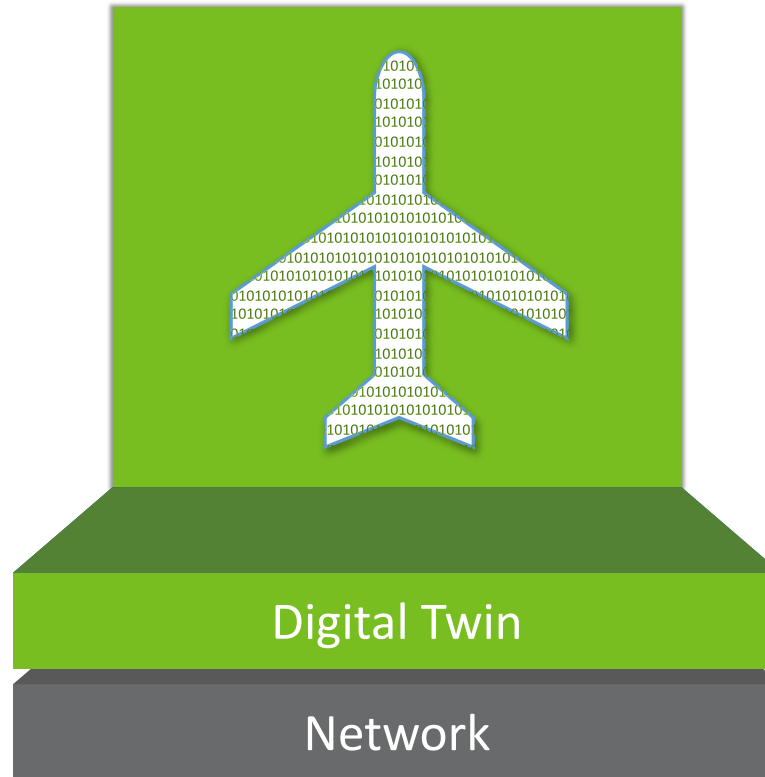
"Fly before you buy"



Automated Processes
Repeatable
Expeditious

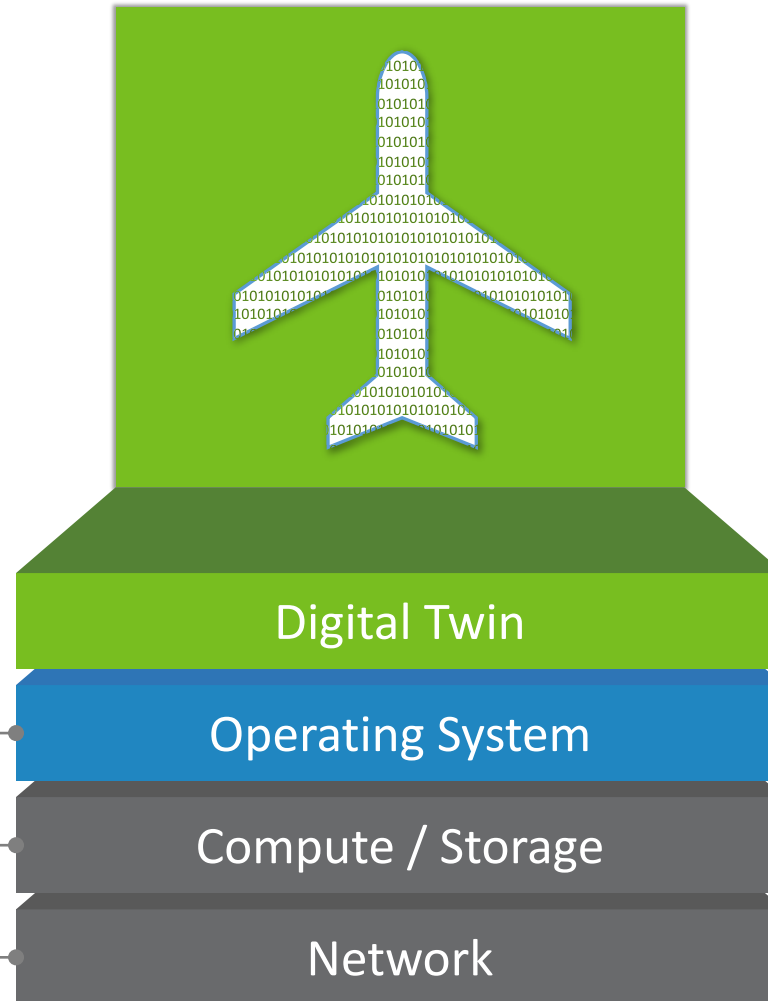
An aerial photograph of a large freight train yard. The yard is filled with numerous railcars of various colors, including blue, red, yellow, and white. The railcars are arranged in long, parallel rows, creating a strong sense of perspective. The background shows some greenery and a clear sky. A blue diagonal overlay covers the left side of the image, where the title text is located.

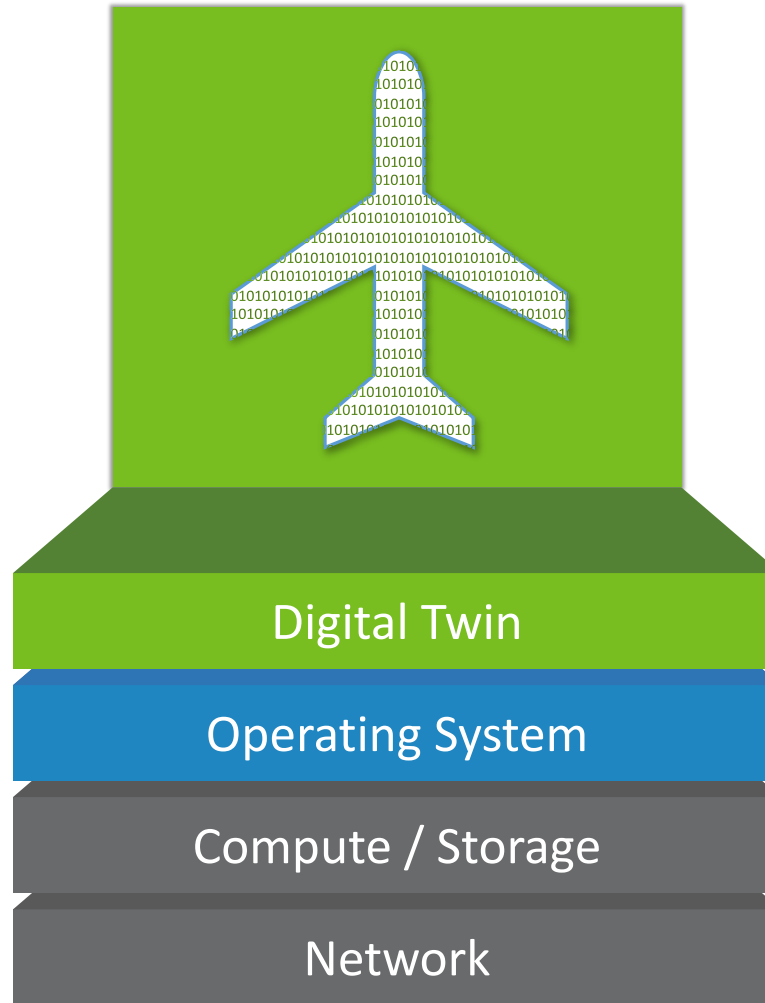
A Digital Air and Space Force



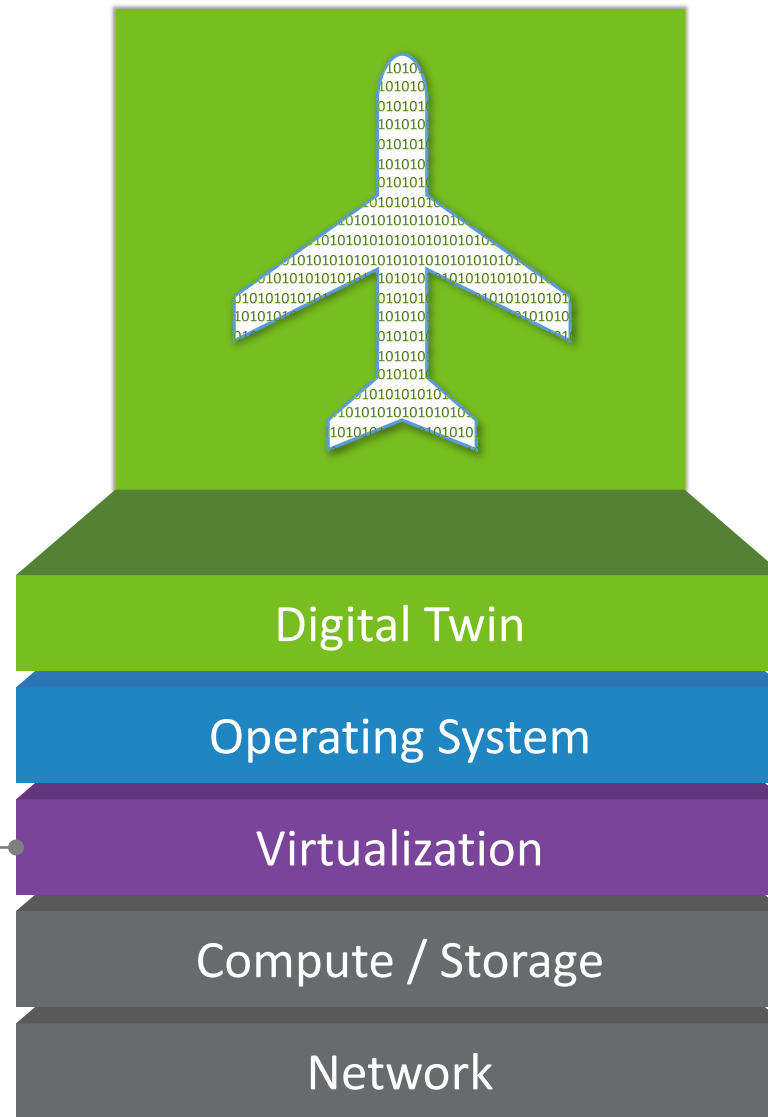
- Fit for purpose
- Disjoined Operations
- Static Configuration
- Hardware Dependent

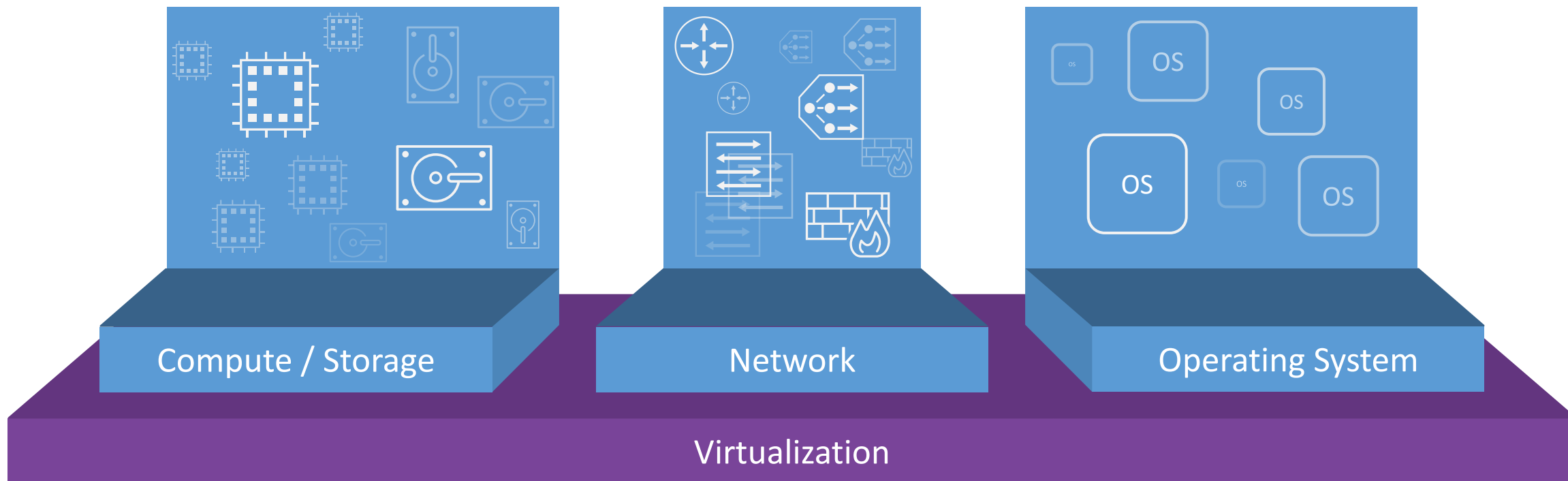
- Software
- Disjoined Operations
- Shadow IT

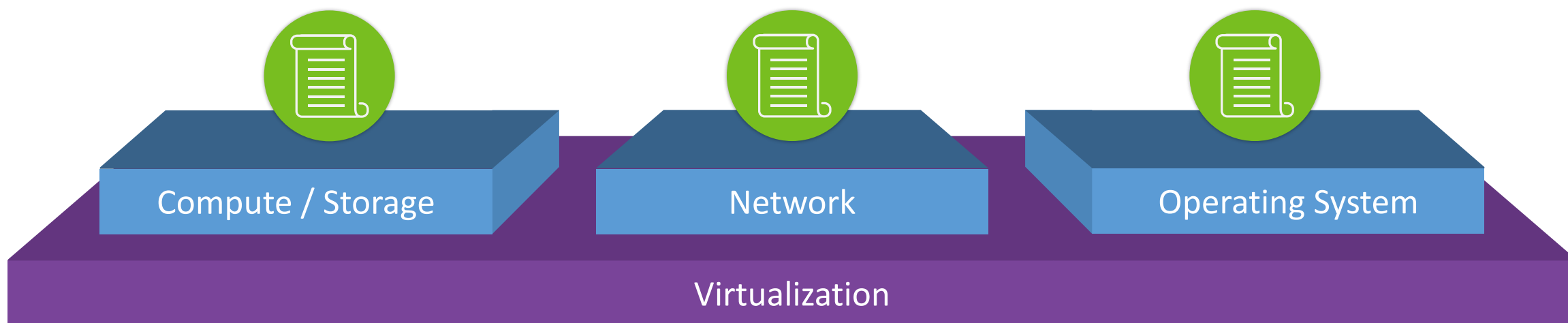


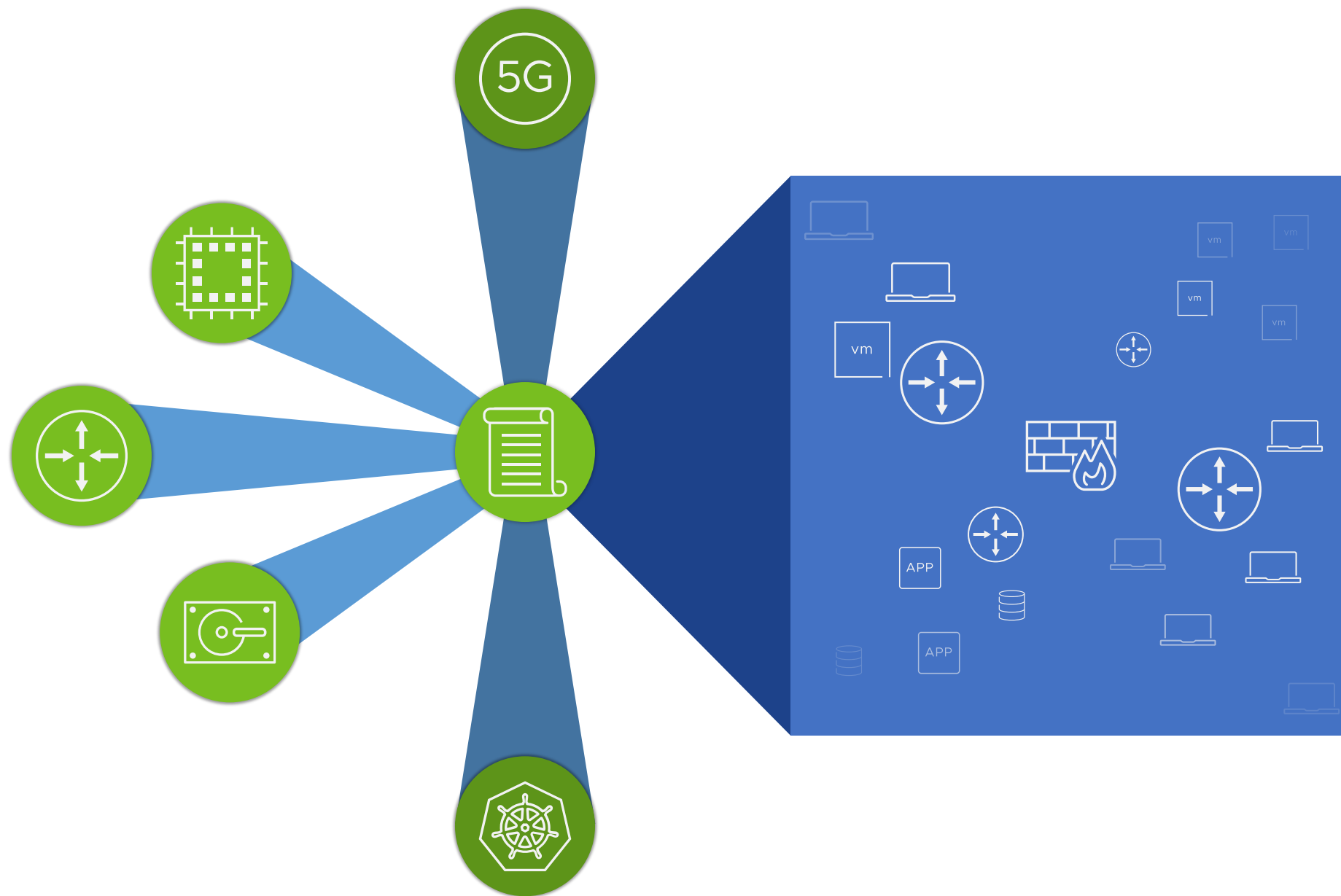


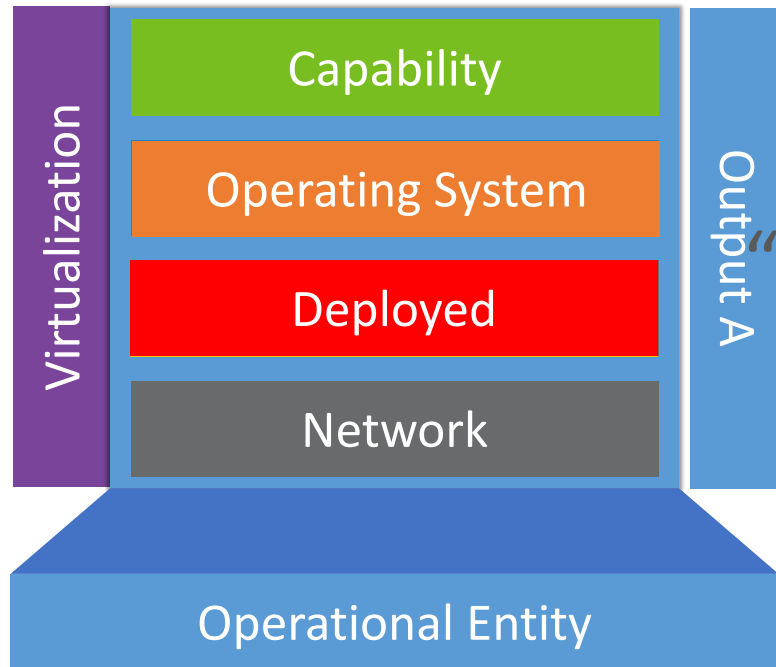
- Dynamic
- Optimized
- Trusted Source
- Portable





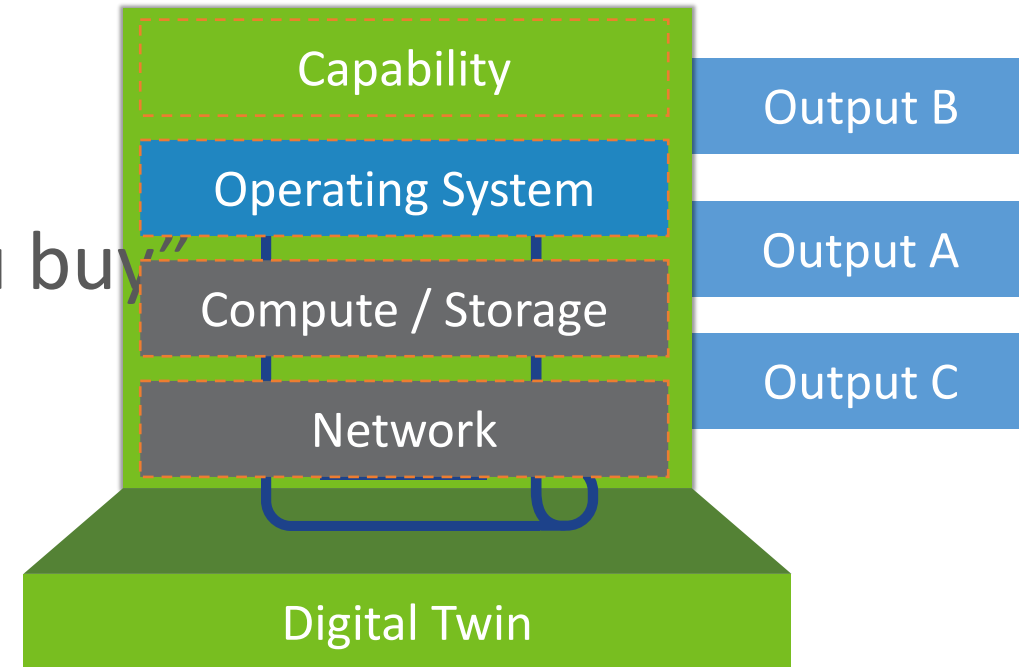






Funding
Manpower
Time
Manual Processes

“Fly before you buy”



Automated Processes
Repeatable
Expeditious

Digital Air and Space Force

Portable

Interoperable

Adaptable

End-to-End Mission Focus



"Lead vs Conform"

Capability is created, validated, delivered, and evaluated in real-time against real-time need. Supporting elements can be altered without the need for revalidation via manual processes.

"Fit the network for the capability vs capability forced to fit the network..."



Thank You!

Please email any questions to jhardin@vmware.com

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