

# Tactical Systems Virtualization

Dick Novak  
MCTSSA



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# Background: Hardware-in-the-Loop

Hardware-in-the-loop yields high confidence that test results, engineering changes, and user issue resolution are operationally representative

Fielded systems are not hardware agnostic

Testing &  
Engineering

User  
Support

## Testing & Engineering

12 separate labs

- ACE
- NDF
- MC2S
- Radars
- Tactical  
Networking
- Virtualization
- RF
- NOTM
- MAGTF Afloat
- GCE
- SATCOM
- Network  
Efficiency

## User Support

Hardware-in-the-loop allows replication of users' systems issues to troubleshoot and fix the problem

Troubleshooting Lab:  
CAC2S, COC, JBC-P, BFT, Tactical Radios, AFATDS,  
THSv2, MARCIMS, TBMCS

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## Problem: Cost & Availability

A single piece of hardware is expensive & some equipment is hard to get

One is often not enough, three mission areas often require the same equipment, at the same time

MCTSSA's geographically dispersed teams cannot access Camp Pendleton assets

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## Solutions: Virtualization of hardware

- High fidelity
  - Work like the original
  - Integrate with other systems
- Validation and Verification
  - Necessary to ensure validity of tests, engineering changes, and issue resolutions
- Updatability
  - System hardware periodically changes, virtualized hardware must keep pace



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# Working Together

Where do we go from here?

- Meet with me, Dick Novak, at the Q&A Session
- Submit formal inquiries to MCTSSA Operations

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