

NAS Infrastructure Management Symposium

AMHS

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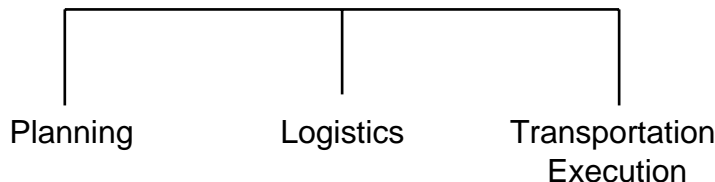
The 20 Minute Roadmap to NGATS (The first Half)

- The first step to NGATS is succinctly defining the capability needs for the stakeholders
- Develop the Architecture.... But not too much Architecture!!
 - First it is a 2025 thing (we don't know everything!... This will allow smart engineers to impress) Raytheon alone has over 40,000.
 - See the future, turn around and bridge it to the present... not the other way around! The technical obstacles that way are openings vs. locked doors.
 - Assume Moore and Metcalf laws (take bandwidth and processing constraints off the table)
 - The solutions will be elegant and will solve the problem (not the problems associated with the problem) and finally.... think grand no little thinkers in world leadership
- It is assumed NGATS will be Net-Enable and Service Oriented based on FAA, JPDO, NASA language
 - These assumptions are good, for now, they narrow scope

The NGATS Architecture Linkages

Customer Operations' Top Objectives and operational threads (OA)

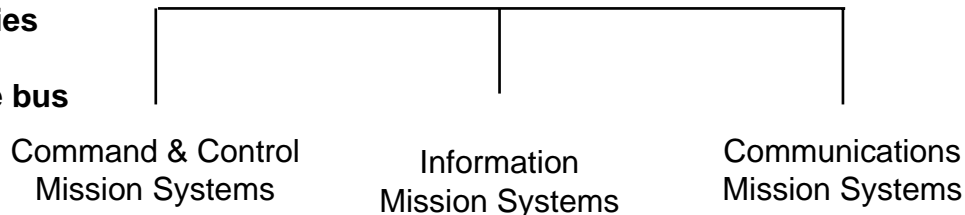
NGATS Capability Needs



Goals, Major Task Objectives

Essential Mission Capabilities
• built on COTS/GOTS
• provide enterprise service bus

NGATS Key Enabling Parts



Infrastructure Service Categories or Enterprise Enablers

Correspond to
• Business
• Products

NGATS Elements

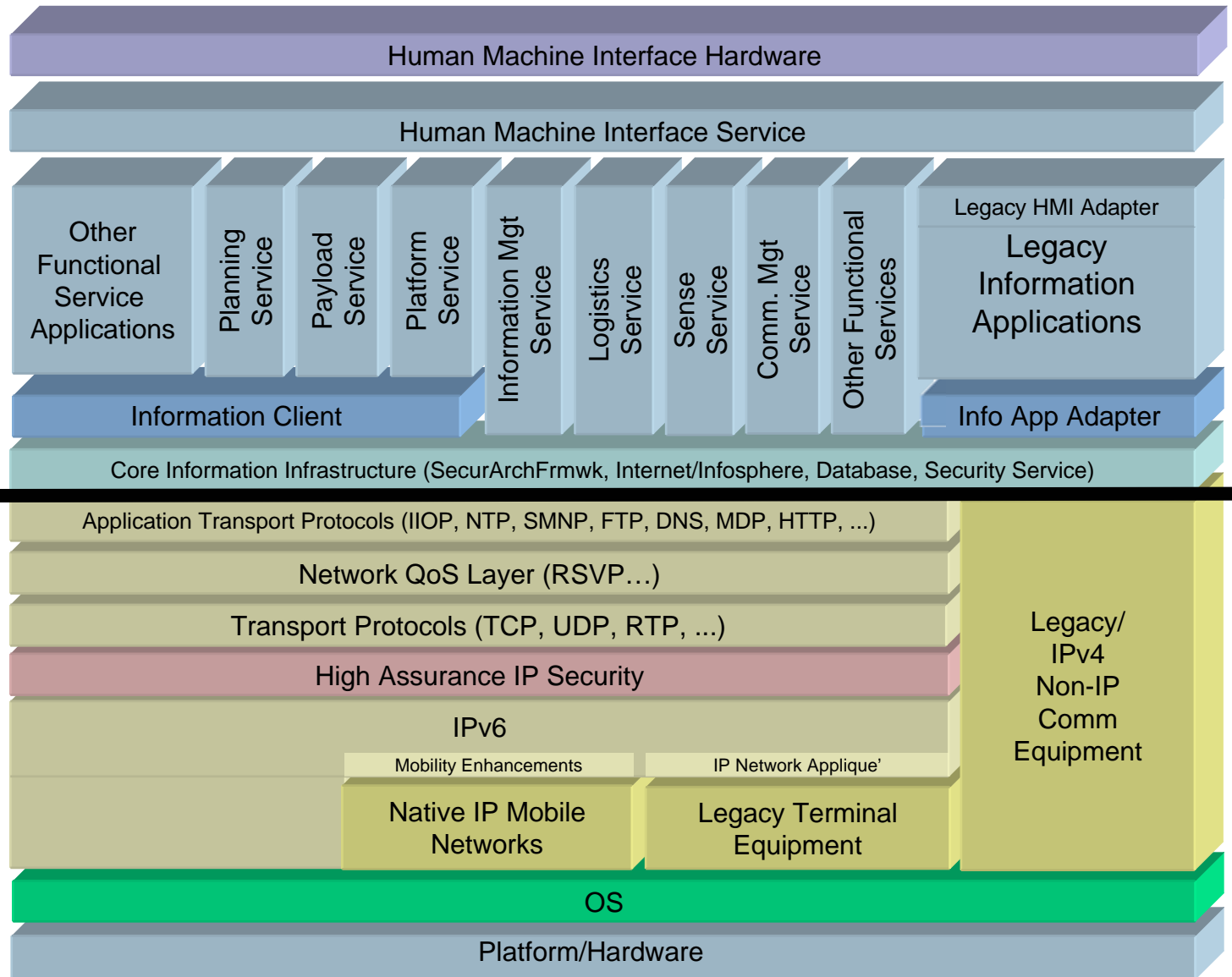


Domain or Mission Specific Products which interact

The 20 Minute Roadmap to NGATS (The second half)

- NGATS requires the selection of standards (worldwide) i.e. everything below the middleware
 - Above the middleware you can be close but below you have to be “right on”... i.e. a close security standard is a non-starter
- These standards must address the three basic parts of a Net-Enable architecture; Information, Communications, and Command and Control
 - Put logistics in the process not on it...now (pay now or pay latter)
- Of the three (first among equals is Command and Control) but establishing the communications network is the first step to “Net” Centricity for NGATS
- If scaled properly this communications architecture will not only sustain NGATS but new business models as well

NGATS Architecture (next layer down)



Cut line

The 20 Minute Roadmap to NGATS (The third half) ☺

- Consider all (aircraft and ground) systems now in an elemental level (strive for interdependence)
 - Sensors, Payloads/Passengers, C2, Platform and Communications
 - Then net-enable those legacy systems that can bridge to the future then fill the gaps with new systems native to the new architecture
- Begin including more stakeholders (they are bill payers too!)
 - Roads, ships, trains, cars, homes, and ?
- NGATS----- NGaTS ----- NGTS ----- ?
 - US, Europe, Asia.....

This is why NGATS could become the second largest integration job in the history of mankind!

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