

**Space Exploration
Communications & Navigation
Status Panel**

Panel Chair: Loren Clare

Jet Propulsion Laboratory

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Agenda

- **Introductions**
- **Top-level status**
- **Topic briefings by panel members**
- **Open discussion**



Introductions

- **Loren Clare (JPL)**
 - C3I Lead Engineer, SCIP SE&I
- **Jeff Hayden (Consultant)**
 - SCIP Architecture SE&I
- **Karen Richon (GSFC)**
 - SCIP Navigation SE&I
- **Mark Flanagan (GSFC)**
 - Lead, Cx Lunar Surface Systems Comm & Nav
- **Jonathan Gal-Edd (GSFC)**
 - SCIP Ground Systems; LAT/LAT2

SCaN: Space Communications & Navigation

SCIP: System Concepts, Integration and Planning

Cx: Constellation (Program)

LSS: Lunar Surface Systems

LAT: Lunar Architecture Team (LAT2: second phase)

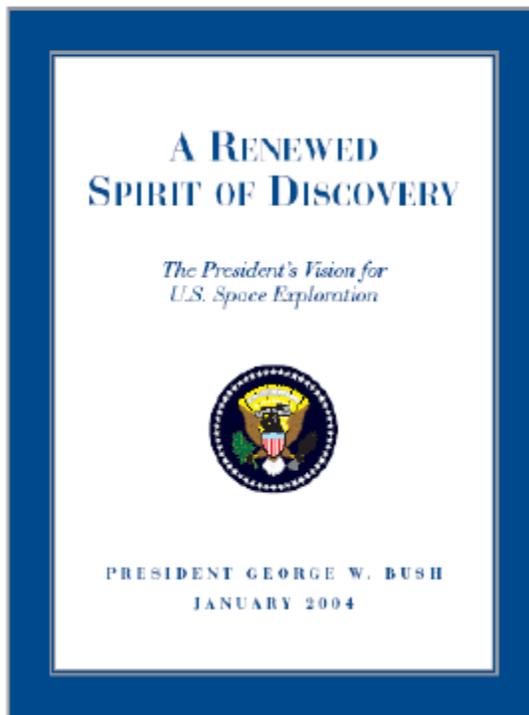
SE&I: Systems Engineering & Integration

C3I: Command, Control, Communications & Information



Requirements

Vision for Space Exploration announced by Pres. Bush Jan. 14, 2004



Implement a sustained and affordable human and robotic program to explore the solar system and beyond

Extend human presence across the solar system, starting with a human return to the Moon by the year 2020, in preparation for human exploration of Mars and other destinations;

Develop the innovative technologies, knowledge, and infrastructures both to explore and to support decisions about the destinations for human exploration; and

Promote international and commercial participation in exploration to further U.S. scientific, security, and economic interests.

Addressing the networking concepts, benefits and challenges to meet these requirements



Top-Level Status

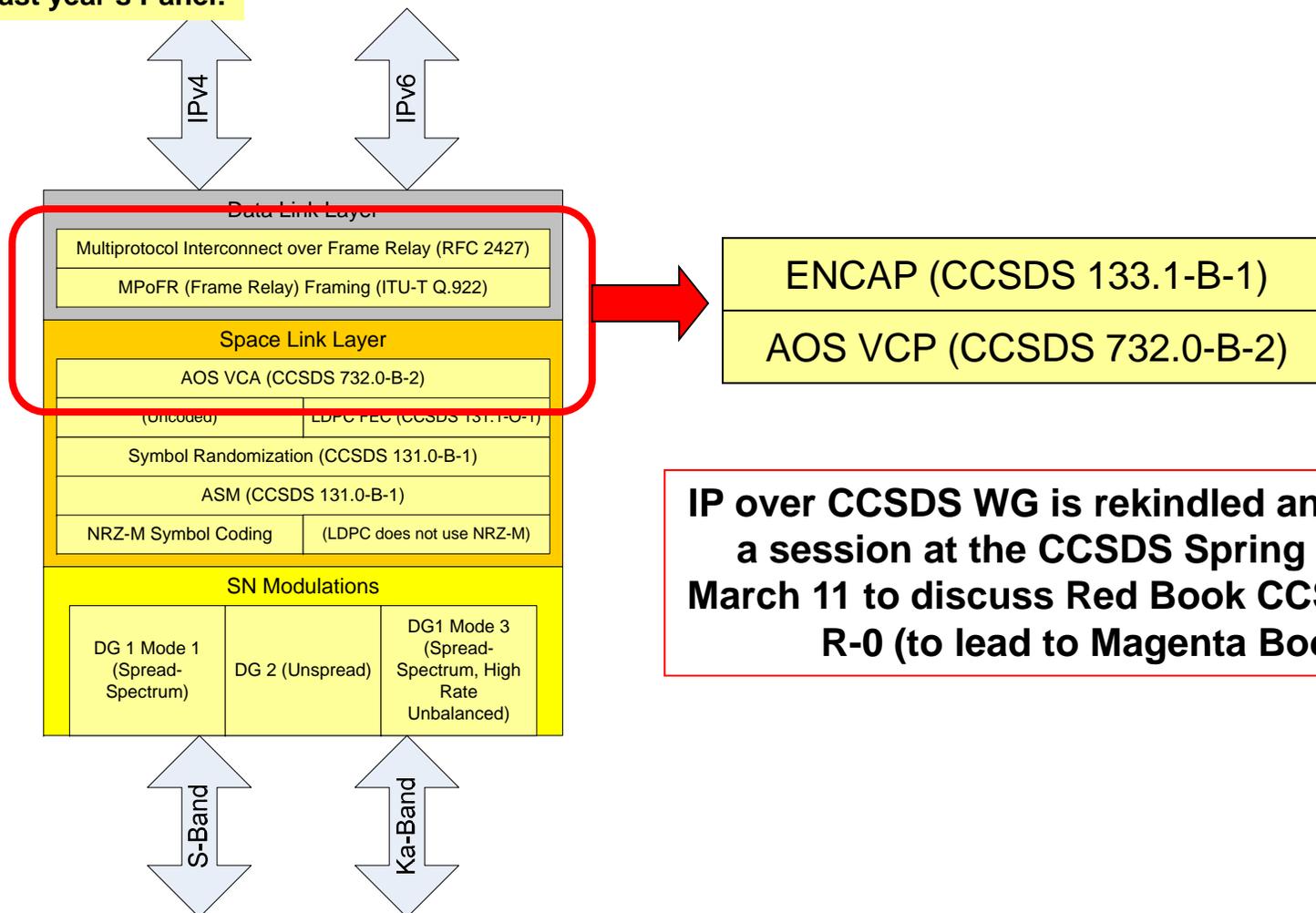
- Program schedule dates are unchanged
- Constellation and SCan are driving to be more internationally compliant
 - Recently changed the protocol stack (next chart) to match CCSDS approach and foster international interoperability
- Constellation architecture remains “netcentric”



Change to C3I Protocol Stack

- Constellation and SCan agreed to support CCSDS approach to network layer interface

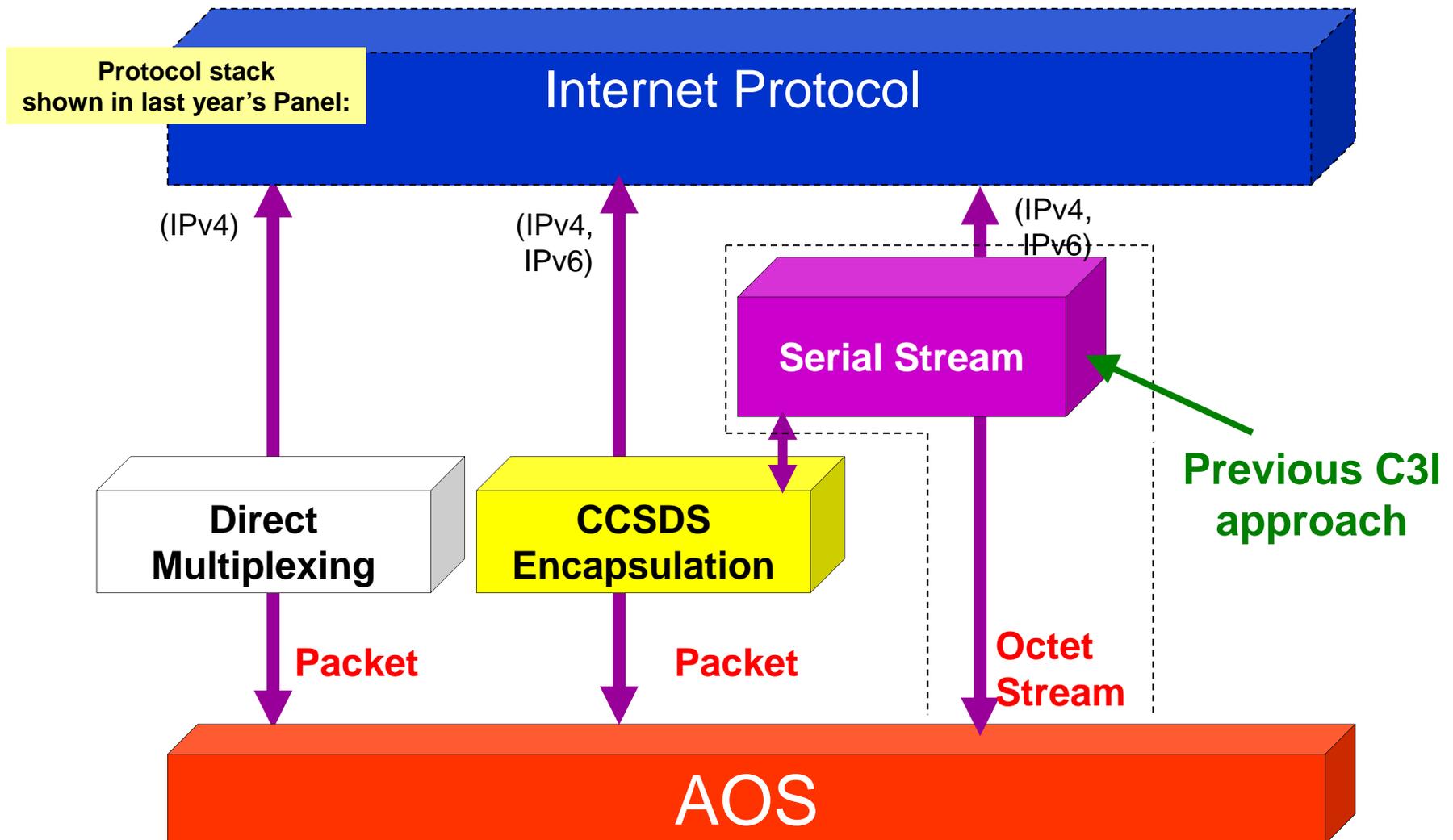
Protocol stack shown in last year's Panel:





C3I Stack Status

Change to C3I protocol stack





Panel member briefings