

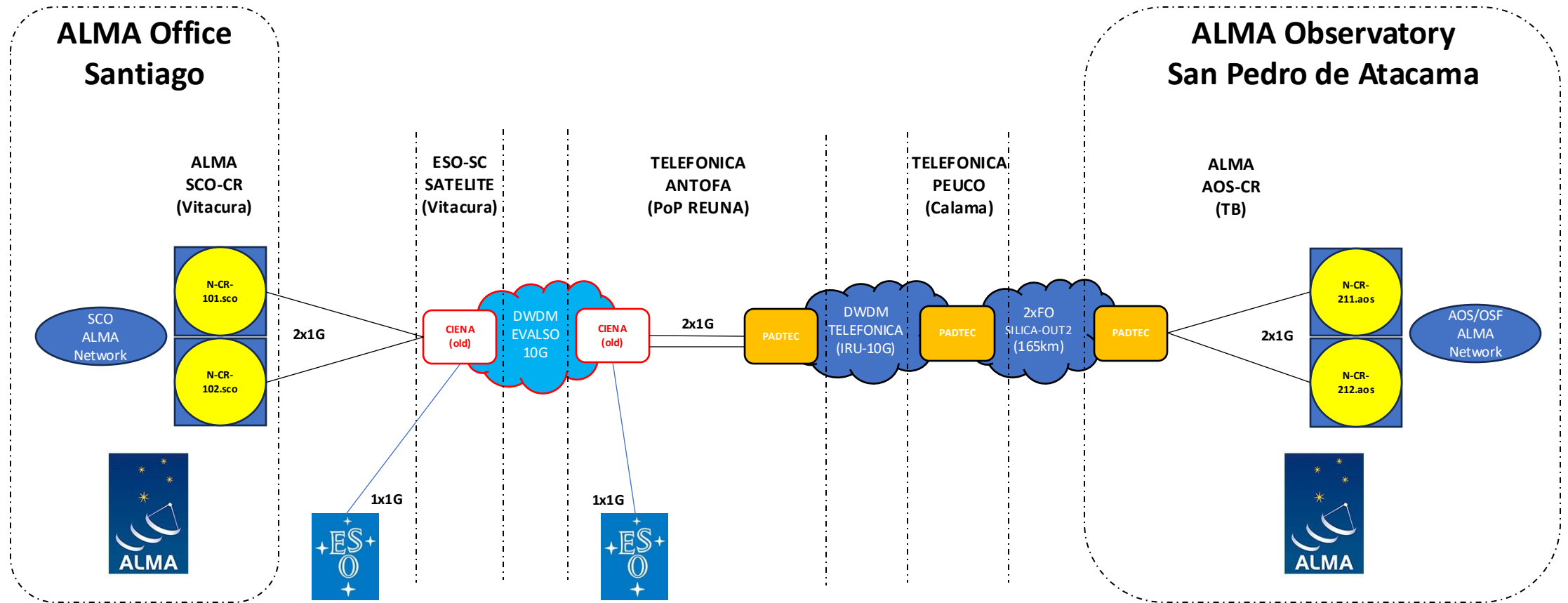
# ALMA Network Infrastructure:

## Upgrade of the Optical Transport Network and ALMA links between sites

Prepared by C. Achermann/N. Ovando (JAO IT Manager/Deputy)  
Presented by J. Ibsen, Head of Computing, Joint ALMA Observatory



# ALMA Previous (Jun 2024)

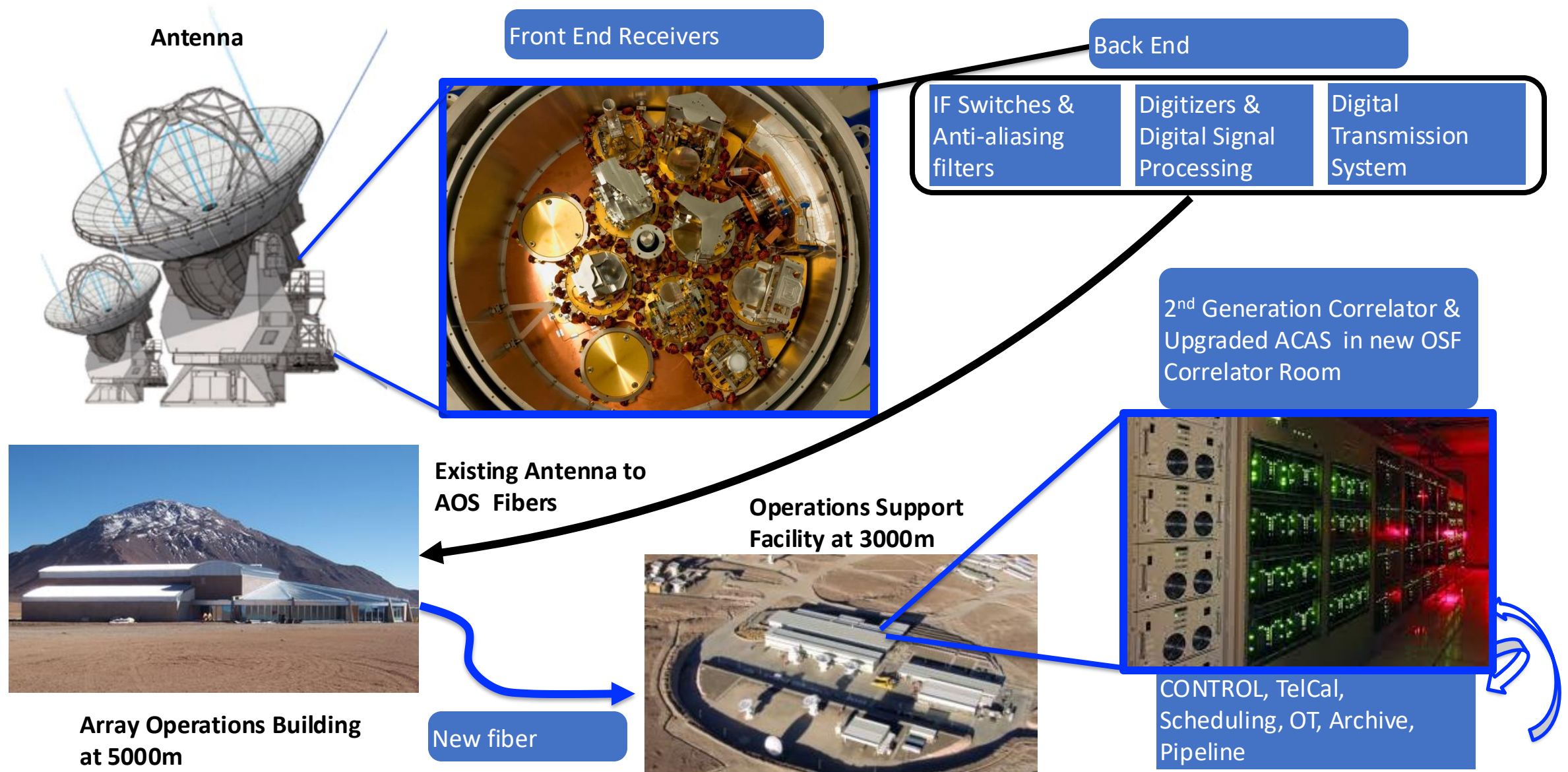


# EVALSO successor while also preparing for ALMA 2.0 (Wideband Sensitivity Upgrade Program)

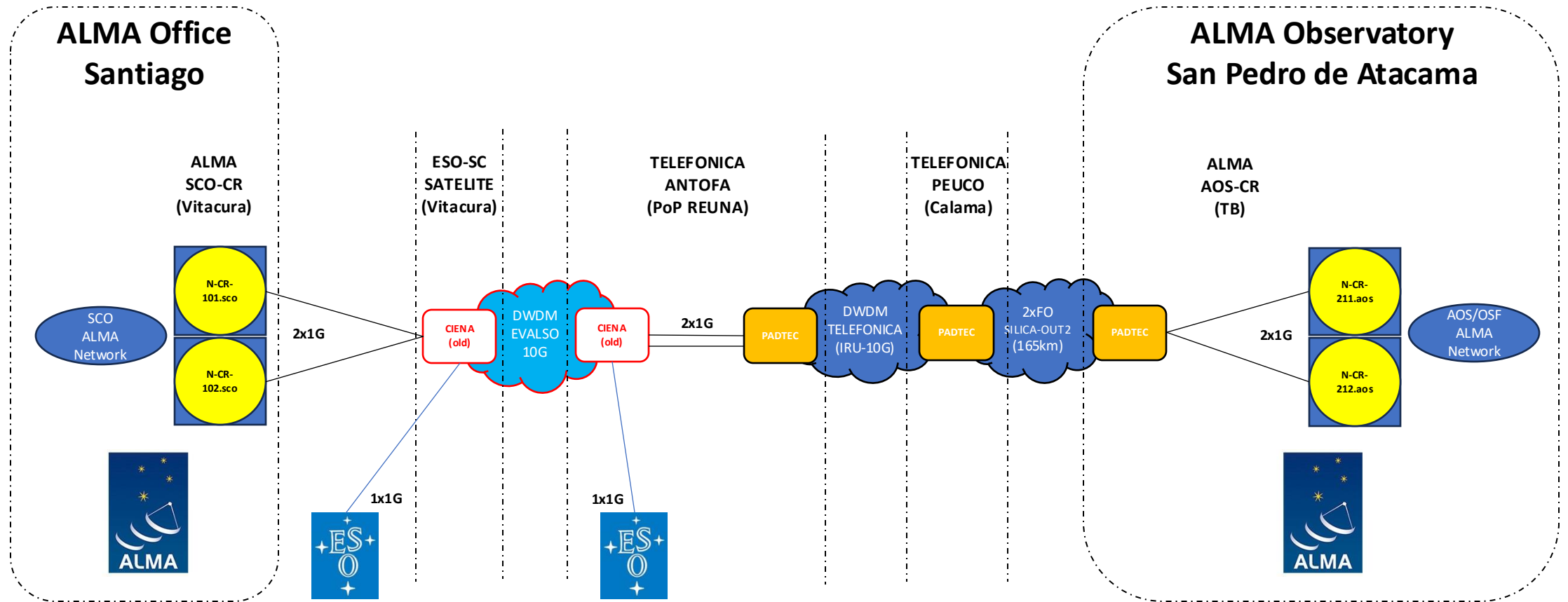
- Joint effort between ESO (lead) and JAO (partner) to address EVALSO end of life
- Capacity upgrade from 2x1Gbps to 4x10Gbps (20x) AOS to SCO, which support future science data volumes demands
- Scope: Upgrade for the Optical Transport Network – OTN (DWDM):
  - Calama to Antofagasta: Upgrade from OTU2 to OTU4 – TELEFONICA
  - Antofagasta to SCO: OTU4 over new backbone – REUNA
  - Replacement of the DWDM Equipment (from PADTEC to CIENA) for AOS, Calama and Antofagasta to support OTU4 End-to-End transport
- Required Updates of existing contracts:
  - Silica Network (AOS-Calama)
  - Telefónica (Calama-Antofagasta)
  - REUNA (Antofagasta – Santiago and DWDM Ciena equipment)
  - REUNA (network administration for the section that goes from AOS-Calama- Antofagasta).
- Schedule milestones:
  - Antofagasta – Santiago Backbone and DWDM Ciena equipment: Tender initiated in Nov 2023. Awarded in Jan 2024
  - Calama to Antofagasta upgrade and Installation of DWDM equipment: March to Sep 2024
  - Upgrade from 2x1Gbps to 4x10Gbps operational on Oct 2024

# The Wideband Sensitivity Upgrade

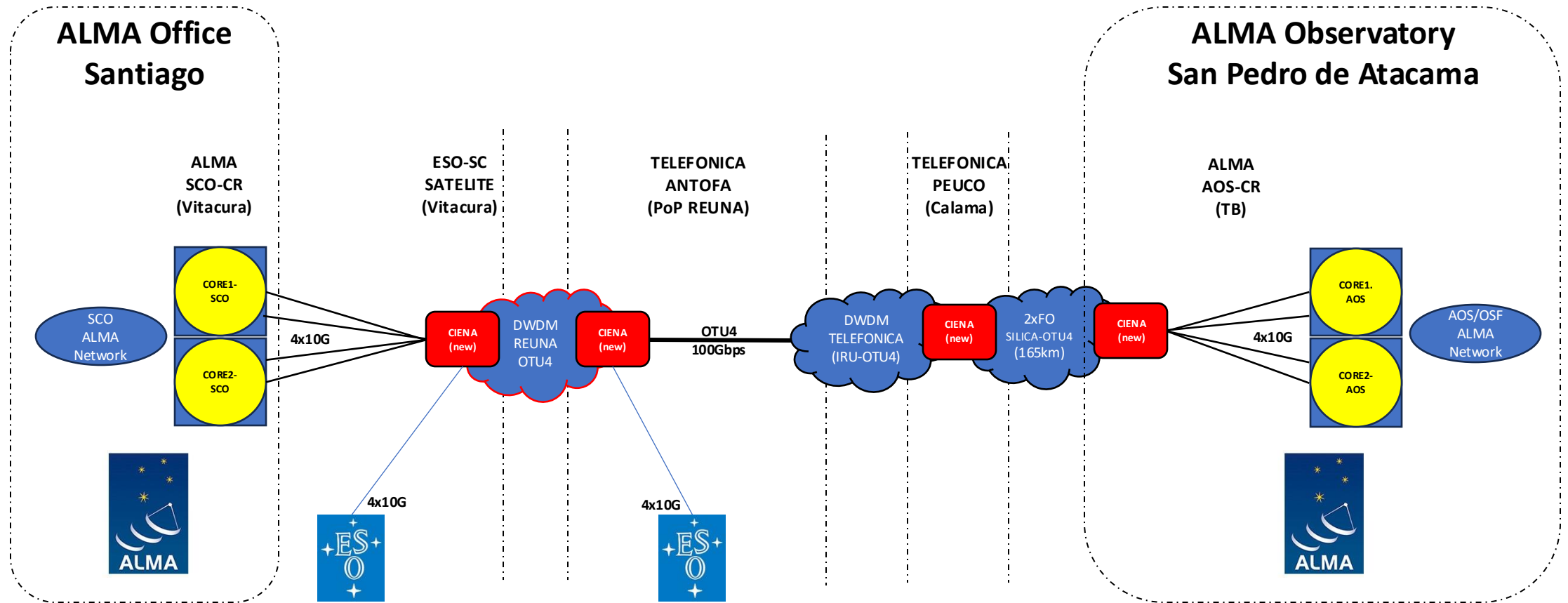
New or upgraded components are in blue



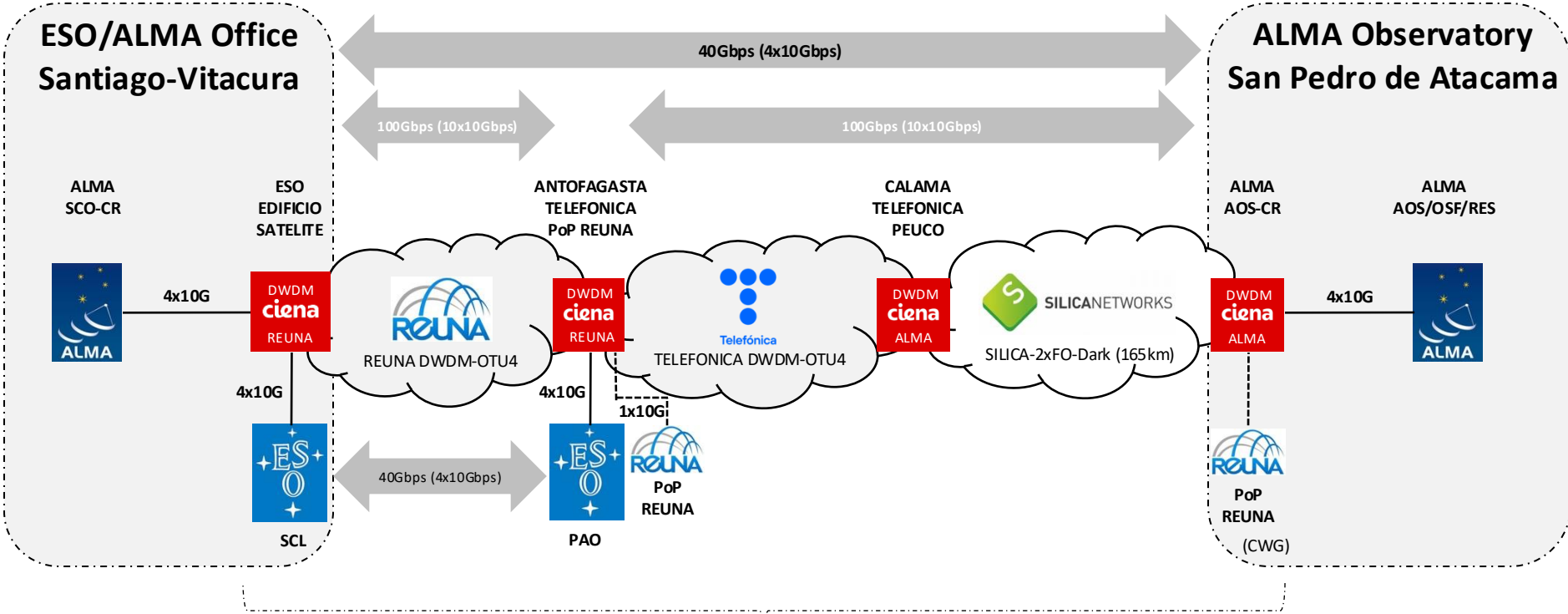
# ALMA Previous (Jun 2024)



# ALMA Final (Oct 2024)



# New SCO/AOS Links – Final



Monitoring and Management of the OTN End-to-End

RACK de ALMA Nodo PEUCO

New CIENA Equipment

TELEFONICA-PEUCO Node  
CALAMA

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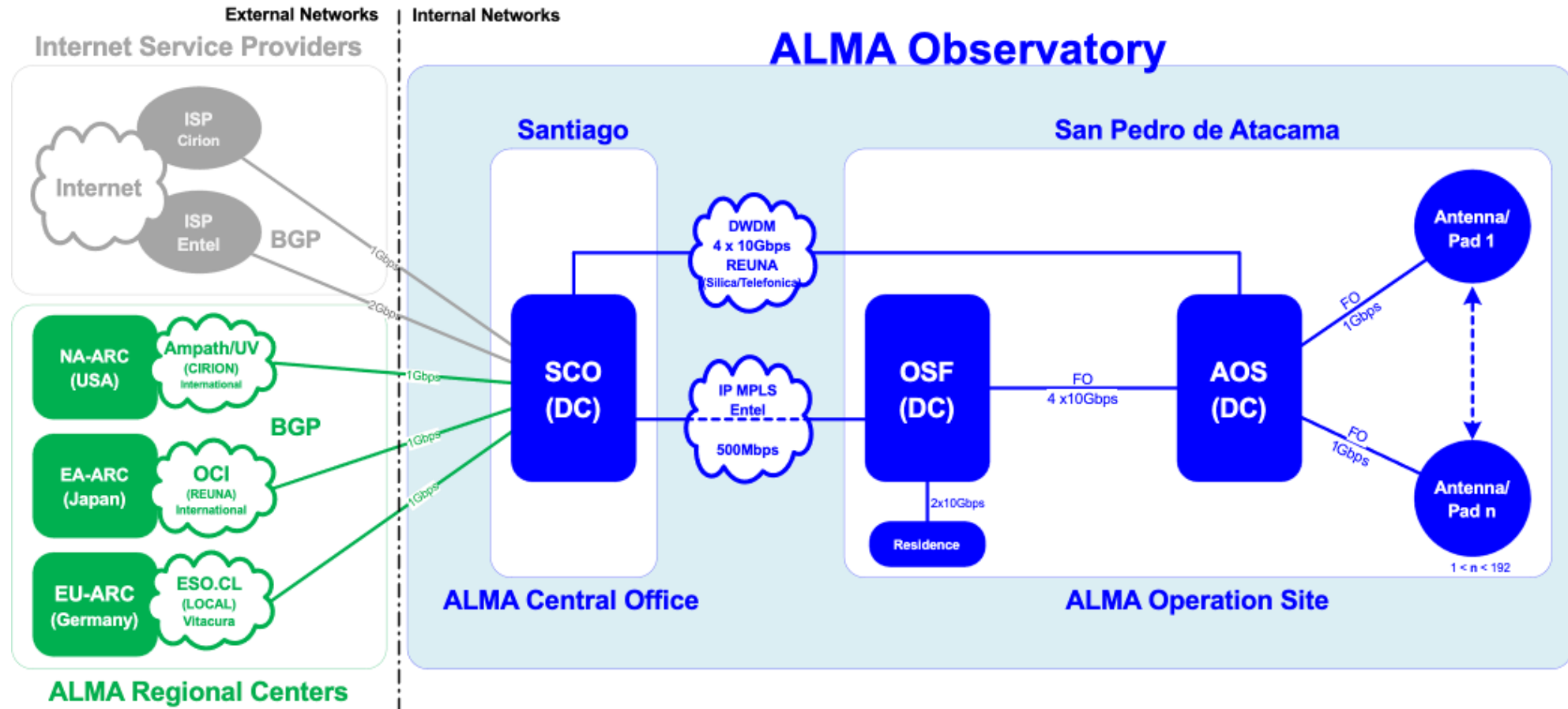
# New CIENA Equipment

ALMA-AOS Node  
AOS-TB-Computer Room

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# ALMA Links



Thank you!

