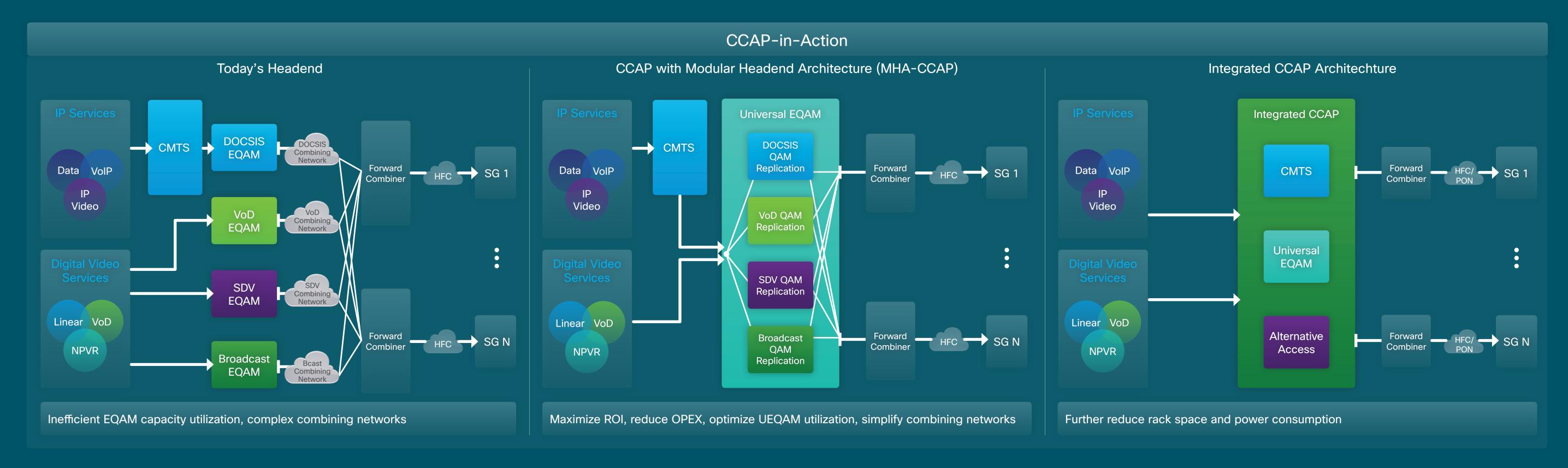
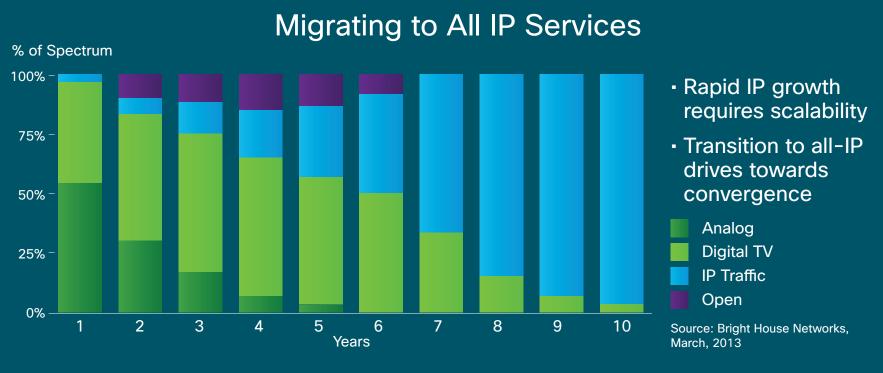
Converged Cable Access Platform (CCAP) and DOCSIS 3.1





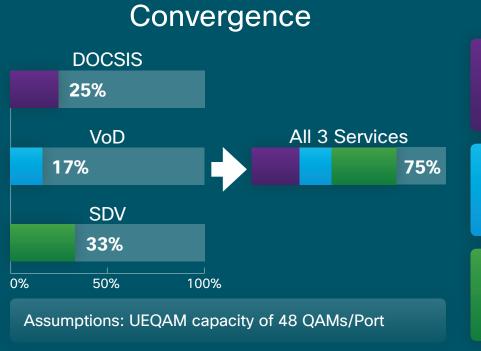
Cisco's CCAP Solutions Driving Convergence with Scalability and Density

Further optimize spectrum efficiency with backward compatibility reassurance. Achieve 1+ Gbps upstream and 10+ Gbps downstream capabilities to compete with FTTx. **HFC Spectrum** DOCSIS 3.1 (Downstream) DOCSIS 3.1 (Upstream) DOCSIS 3.1 DOCSIS 3.0 (Upstream) DOCSIS 3.0 (Downstream) IP Services with DOCSIS 3.0 OOB (Upstream) Analog/Digital Video Video Services 5 42 54 85 108 200 254 1200 1002

DOCSIS 3.1 Overview[†]

NA Line -			
Meeting	$(::\Delta P)$	Objective	S
IVICCUITS			

CCAP Objectives	Cisco MHA-CCAP: uBR10012 + RFGW-10	Cisco I-CCAP: cBR-8 ¹		
Increased scalability & capacity	✓	✓		
Reduced cost-per-downstream	✓	✓		
Converged multi-service	✓	✓		
Rack space per system	35 to 56 RU	13 RU		
DOCSIS Downstream capacity	Up to 1 Gbps / SG	Above 1 Gbps / SG		
Deployment range	1 Gbps - 80 Gbps	80 Gbps - 1+ Tbps		



Scalability	/				
sco uBR10012 CM	1TS				
480 US Channels	48 Gbps DOCSIS DS				
Cisco RFGW-10 UEQAM					
3,840 Unique QAMs	10,240 Total QAMs				
o cBR-8 Integrated m scalable to					
	480 US Channels isco RFGW-10 UE 3,840 Unique QAMs				

Technological Potential of DOCSIS 3.1	DOCSIS 3.0			DOCSIS 3.1				
	Now	Phase 1		Phase :	2	Phase 3		
DS Range (MHz)	54-1002	108-1002		254*-12	00	500*-1700		
DS QAM Level	256	256		≥1024		≥1024		
Number of DS Channels	8	24		158#*		200#*		
DS Capacity (bps)	300M	1G		7G*		10G+*		
US Range (MHz)	5-42	5-85		5-85*	5-200*	5-400*		
US QAM Level	64	64		≥256	≥256	≥1024		
Number of US Channels	4	12		12#*	32#*	60#*		
US Capacity (bps)	100M	300M		400M*	1G*	2.5G*		
Note: †Pending CableLabs® final specifications on DOCSIS 3.1 spectrum, *TBD value, #equivalent number of single-carrier QAM								