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Costing of next generation communications networks (NGN)

– Manual for a sample CALDIVO DATA application: **Annex** –

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Contents

The forwarding of costs concerns all cost centres that belong to layers 1 and 2 of the cost centre hierarchy. The following paragraphs outline how costs get forwarded from originating cost centres to recipient cost centres. Each paragraph represents an **originating** cost centre or a category of originating cost centres.

1 ‘Level 2’: No CVR with demand

1.1 Cost centre ‘general management’

Step 1: Cost allocation to cost centres	
Characteristics of recipient cost centres:	■ There are costs which get directly attributed to the cost centre.
List of recipient cost centres	■ ‘plant provision & network planning’ ■ ‘maintenance indoor’ ■ ‘maintenance outdoor’ ■ category ‘plant buildings’ ■ category ‘power supply and air condition’ ■ category ‘transmission equipment’ ■ category ‘cables’ ■ category ‘ducts and trenches’ ■ category ‘distribution frames’ ■ category ‘network nodes’
Key	Costs (CAPEX + OPEX) directly attributed to recipient cost centre.
Step 2: Cost allocation from ‘ducts and trenches’ to its subcategories	
List of recipient cost centres	➔ subcategory ‘LRIC of access services’. ➔ subcategory ‘LRIC of conveyance services’. ➔ subcategory ‘common costs of access and conveyance services’.
Key	Costs (CAPEX + OPEX) directly attributed to recipient cost centre.
Step 3: Cost allocation from ‘network nodes’ to its subcategories	
List of recipient cost centres	➔ subcategory ‘LRIC of access services’. ➔ subcategory ‘LRIC of conveyance services’. ➔ subcategory ‘common costs of access and conveyance services’.
Key	Costs (CAPEX + OPEX) directly attributed to recipient cost centre.

1.2 Cost centre ‘plant provision & network planning’

Step 1: Cost allocation to cost centres	
Characteristics of recipient cost centres:	■ There is CAPEX which gets directly attributed to the cost centre. ■ The cost centre represents a network component.
List of recipient cost centres	■ ‘maintenance indoor’ ■ ‘maintenance outdoor’ ■ category ‘plant buildings’ ■ category ‘power supply and air condition’ ■ category ‘transmission equipment’ ■ category ‘cables’ ■ category ‘ducts and trenches’ ■ category ‘distribution frames’ ■ category ‘network nodes’
Key	CAPEX directly attributed to recipient cost centre.
Step 2: Cost allocation from ‘ducts and trenches’ to its subcategories	
List of recipient cost centres	→ subcategory ‘LRIC of access services’. → subcategory ‘LRIC of conveyance services’. → subcategory ‘common costs of access and conveyance services’.
Key	CAPEX directly attributed to recipient cost centre.
Step 3: Cost allocation from ‘network nodes’ to its subcategories	
List of recipient cost centres	→ subcategory ‘LRIC of access services’. → subcategory ‘LRIC of conveyance services’. → subcategory ‘common costs of access and conveyance services’.
Key	CAPEX directly attributed to recipient cost centre.

2 ‘Level 1’: Indirect CVR with demand

2.1 Cost centre ‘maintenance indoor’

Step 1: Cost allocation to cost centres	
Characteristics of recipient cost centres:	■ The cost centre represents an indoor network component.
List of recipient cost centres	■ category ‘power supply and air condition’ ■ category ‘transmission equipment’ ■ category ‘distribution frames’ ■ category ‘network nodes’
Key	Annual man-hours of maintenance work per piece of network plant.
Step 2: Cost allocation from ‘network nodes’ to its subcategories	
List of recipient cost centres	➔ subcategory ‘LRIC of access services’. ➔ subcategory ‘LRIC of conveyance services’. ➔ subcategory ‘common costs of access and conveyance services’.
Key	Costs (CAPEX + OPEX) directly attributed to recipient cost centre.

2.2 Cost centre ‘maintenance outdoor’

Step 1: Cost allocation to cost centres	
Characteristics of recipient cost centres:	■ The cost centre represents an outdoor network component.
List of recipient cost centres	■ cost centre category ‘cables’. ■ cost centre category ‘ducts and trenches’.
Key	Annual man-hours of maintenance work per piece of network plant (kilometres of cable, kilometres of duct).
Step 2: Cost allocation from ‘ducts and trenches’ to its subcategories	
List of recipient cost centres	➔ subcategory ‘LRIC of access services’. ➔ subcategory ‘LRIC of conveyance services’. ➔ subcategory ‘common costs of access and conveyance services’.
Key	incremental and common route lengths (in kilometres).

2.3 Cost centres ‘plant buildings’

Step 1: Cost allocation to cost centres	
Characteristics of recipient cost centres:	■ The cost centre represents an indoor network component.
List of recipient cost centres	■ category ‘power supply and air condition’ ■ category ‘transmission equipment’ ■ category ‘distribution frames’ ■ category ‘network nodes’
Key	Footprint per piece of network plant.
Step 2: Cost allocation from ‘network nodes’ to its subcategories	
List of recipient cost centres	➔ subcategory ‘LRIC of access services’. ➔ subcategory ‘LRIC of conveyance services’. ➔ subcategory ‘common costs of access and conveyance services’.
Key	Costs (CAPEX + OPEX) directly attributed to recipient cost centre.

2.4 Cost centres ‘power supply and air condition’

Step 1: Cost allocation to cost centres	
Characteristics of recipient cost centres:	■ The cost centre represents indoor network plant. ■ That network plant requires air condition and emergency power supply.
List of recipient cost centres	■ cost centre category ‘transmission equipment’. ■ cost centre category ‘network nodes’.
Key	Annual consumption of electricity by type of network plant.
Step 2: Cost allocation from ‘network nodes’ to its subcategories	
List of recipient cost centres	→ subcategory ‘LRIC of access services’. → subcategory ‘LRIC of conveyance services’. → subcategory ‘common costs of access and conveyance services’.
Key	Costs (CAPEX + OPEX) directly attributed to recipient cost centre.

2.5 Cost centres ‘transmission equipment’

Cost allocation to cost centres	
List of recipient cost centres	■ cost category ‘core links’ ➔ subcategory ‘LRIC of conveyance services’.

Transmission equipment is not attributed to cost category ‘core links’, subcategory ‘common costs of access and conveyance services’. The cost directly attributed to transmission equipment is entirely incremental to conveyance.

2.6 Cost centres ‘cables’

Cost allocation to cost centres (1/2)	
List of recipient cost centres	■ cost category ‘core loops’ ➔ subcategory ‘LRIC of access services’.
Key	cost centres from category ‘local loops’.
Cost allocation to cost centres (2/2)	
List of recipient cost centres	■ cost category ‘core links’ ➔ subcategory ‘LRIC of conveyance services’.
Key	length of the cables dedicated to different kinds of core links.

Cable is not attributed to cost category ‘core links’, subcategory ‘common costs of access and conveyance services’. No cable is supposed to be used simultaneously for local loops and core links.

2.7 Cost centres ‘ducts and trenches’

Cost allocation to cost centres (1/2)	
List of recipient cost centres	■ cost category ‘core loops’ → subcategory ‘LRIC of access services’. → subcategory ‘common costs of access and conveyance services’.
Key	cost centres from category ‘local loops’.
Cost allocation to cost centres (2/2)	
List of recipient cost centres	■ cost category ‘core links’ → subcategory ‘LRIC of conveyance services’. → subcategory ‘common costs of access and conveyance services’.
Key	length of the cables dedicated to different kinds of core links.

Cable for local loops and core links might be situated in the same trench.

2.8 Cost centres ‘distribution frames’

Cost allocation to cost centres	
List of recipient cost centres	■ cost category ‘local loops’ → subcategory ‘LRIC of access services’.

Distribution frames are exclusively used for access services.

3 ‘Level 2’: Direct CVR with demand

3.1 Cost centres ‘network nodes’, subcategories ‘LRIC of access services’ and ‘common costs access and conveyance services’

Cost allocation to cost centres	
List of recipient cost centres	■ Costomer-facing ports ➔ subcategory ‘LRIC of access services’. ➔ subcategory ‘common costs access and conveyance services’.
Key	Cost attributable to customer-facing port by port type and type of network node.

Customer-facing ports are exclusively used for access services.