APPLICATION GUIDE

EuroProt+ in Ethernet networks

PROTECTA HUNGARY

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PROTECTION, AUTOMATION AND CONTROL FOR POWER INDUSTRY

VERSION INFORMATION

VERSION	DATE	MODIFICATION	COMPILED BY
1.0	2012-10-08	First edition	Budenszki
2.0	2024-06-20	New documentation design, figures updated	Ádám

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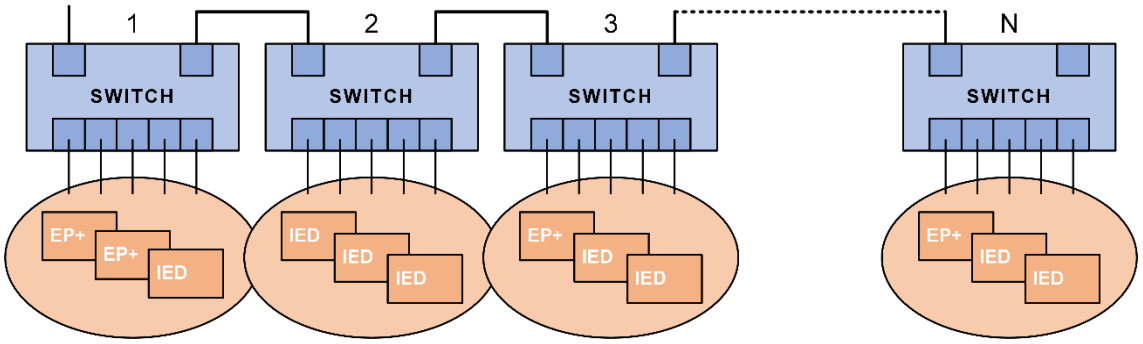
USED SYMBOLS

Additional information

Useful information for settings.

Important part for proper usage.

1 Cascading architecture



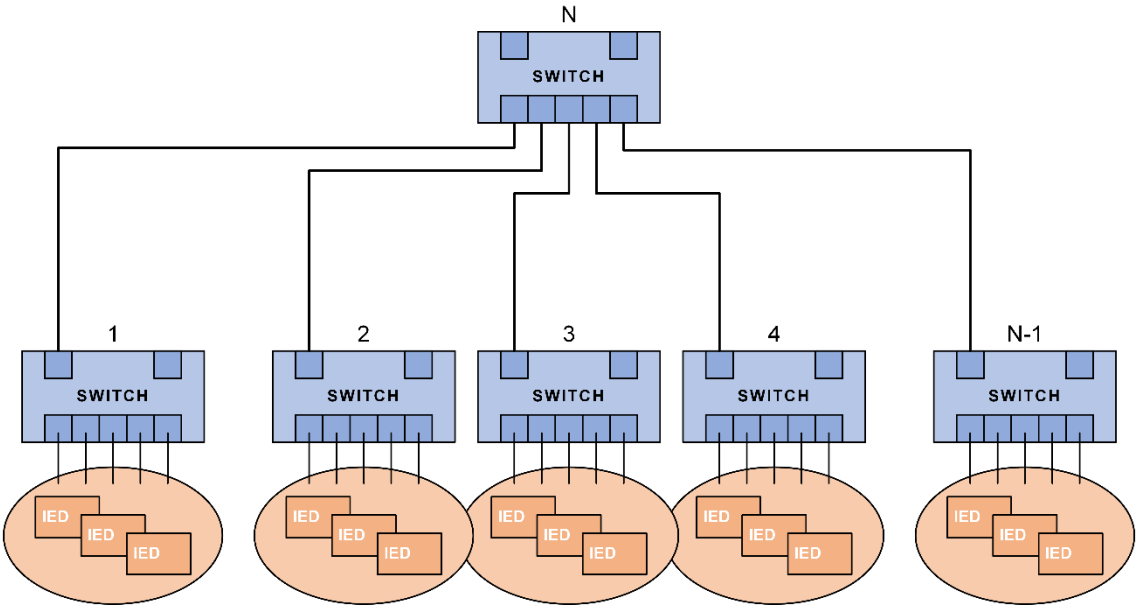
Advantages:

- Cost effective – allows shorter wiring runs

Disadvantages:

- No redundancy – if one of the cascade connections is lost the remaining IEDs are also lost
- Latency every switch adds its propagation delay

2 Star architecture



Advantages:

- Lowest Latency

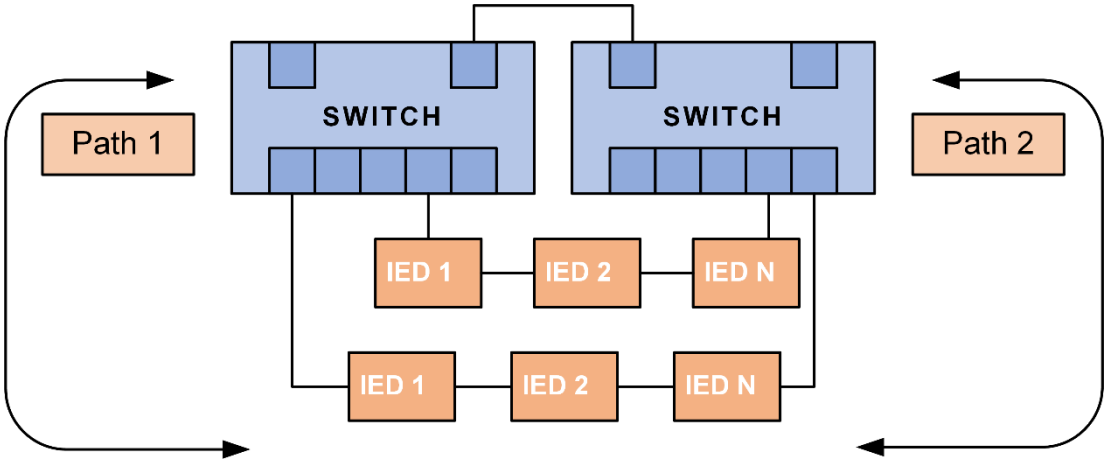
Disadvantages:

- No Redundancy

Redundancy:

- High availability in case of device or link failure
- Automatically follows network topology change
- Multiple paths to reach certain IED
- Need managed switches: isolates looped network segments
- Ethernet network does not tolerate loops in the network: STP, RSTP for loop free operation

3 Ring architecture



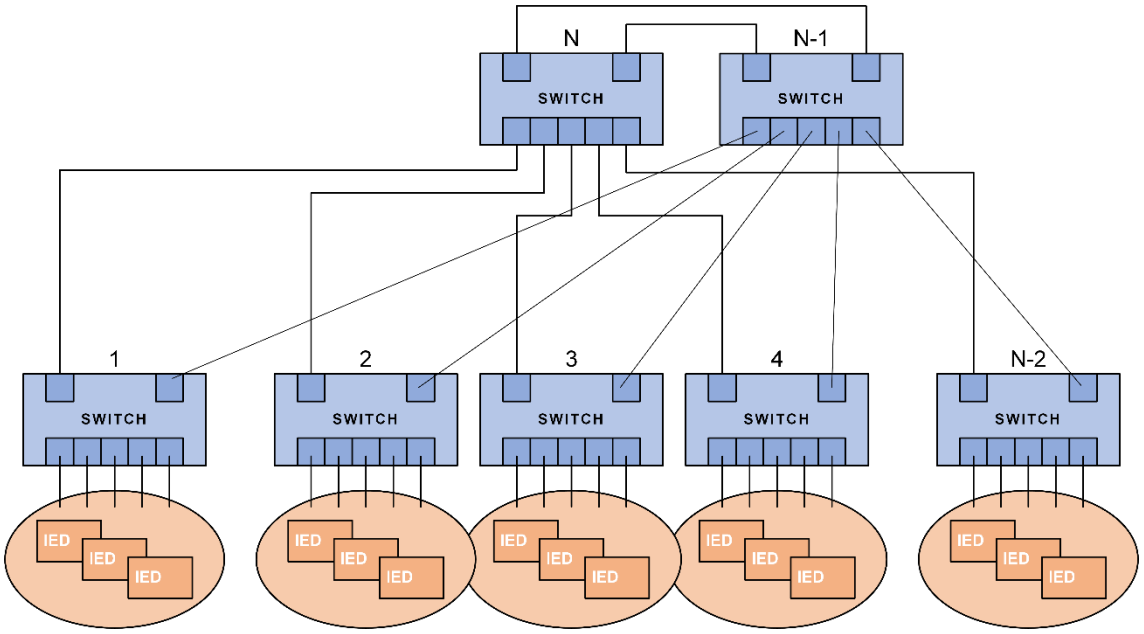
Advantages:

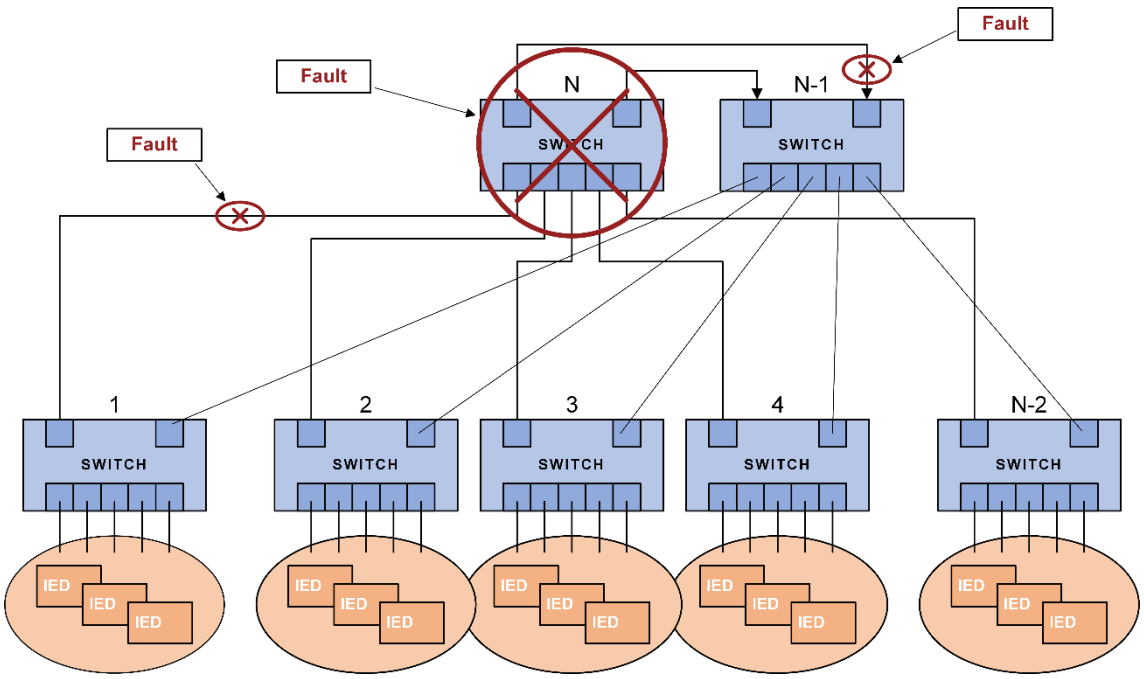
- Fault tolerant
- Simple wiring
- STP, RSTP for loop free operation
- Recommended max. N: 10 pcs

Disadvantages:

- Latency

4 Fault tolerant hybrid (Start/Ring) architecture





5 High redundancy architecture via IED's with dual ethernet ports