

# Serial to Ethernet Technology 2010

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# Device Servers

- Add serial interfaces to a network
- Effectively Ethernet enables any serial device - CNC / PLC / meters & more
- Available in different guises since late 1990s



1 / 2 ports



4 ports

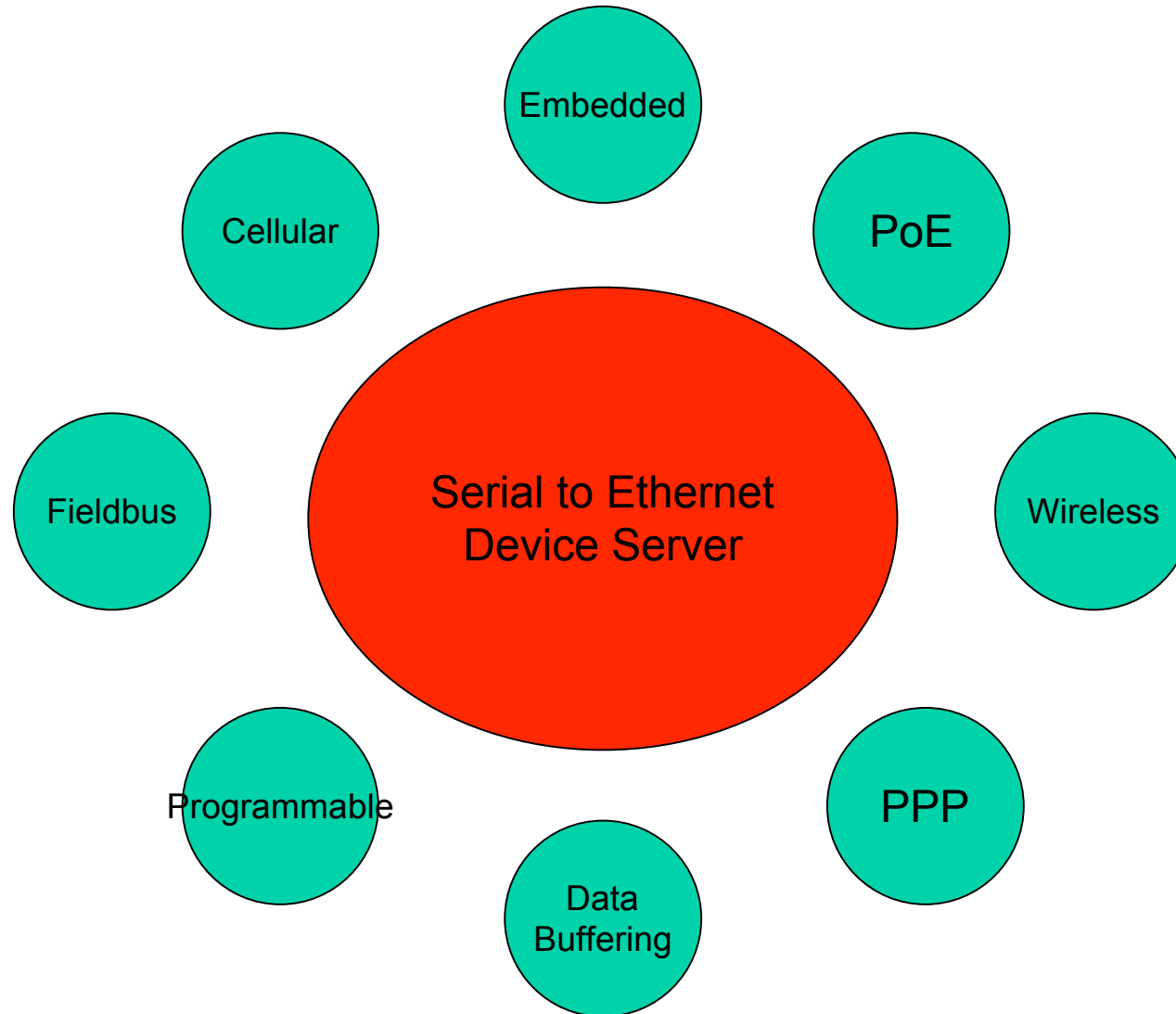


8 ports

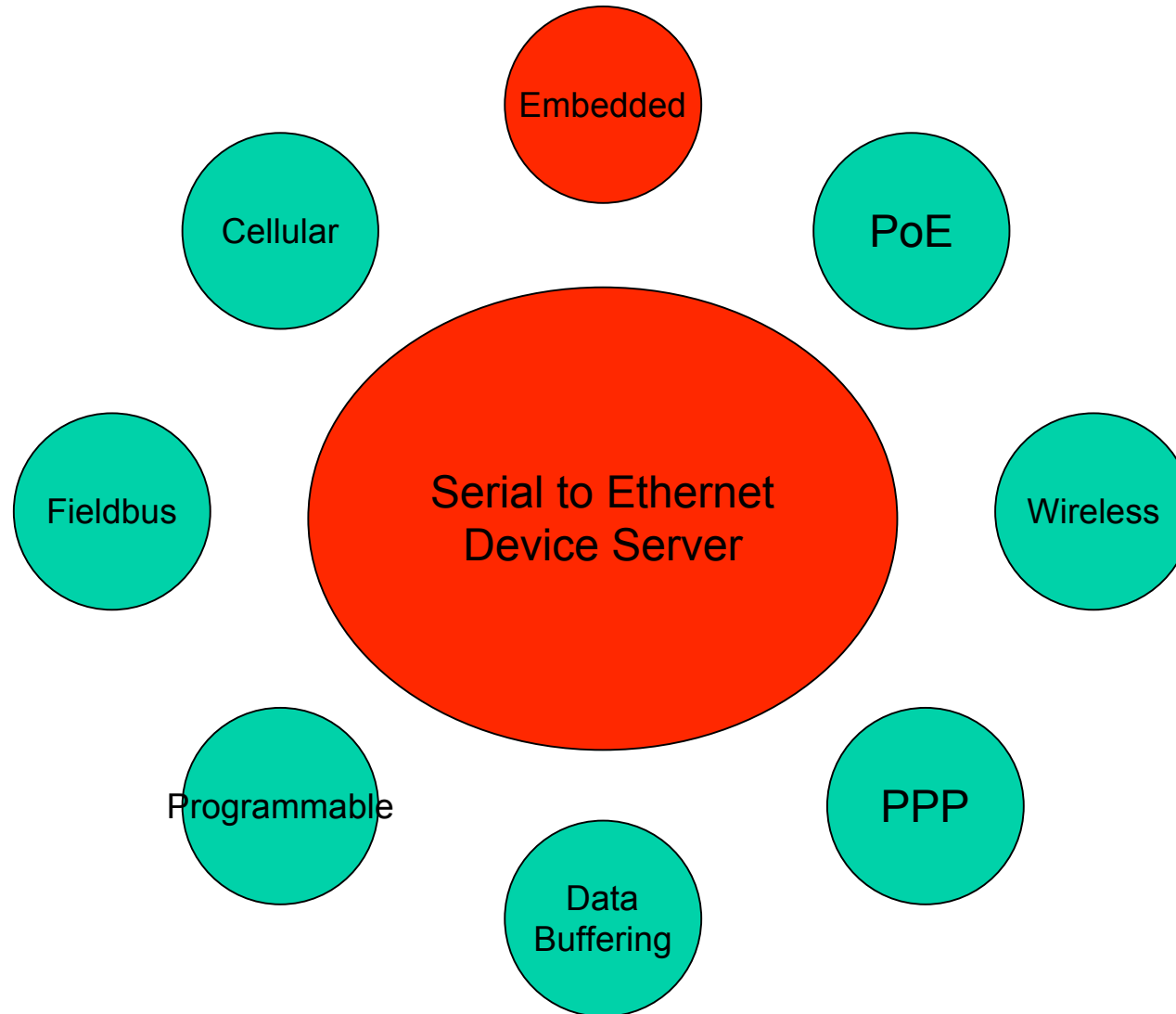


8/16/32 ports

# Device server developments



# Device server developments



# Embedded Device Servers

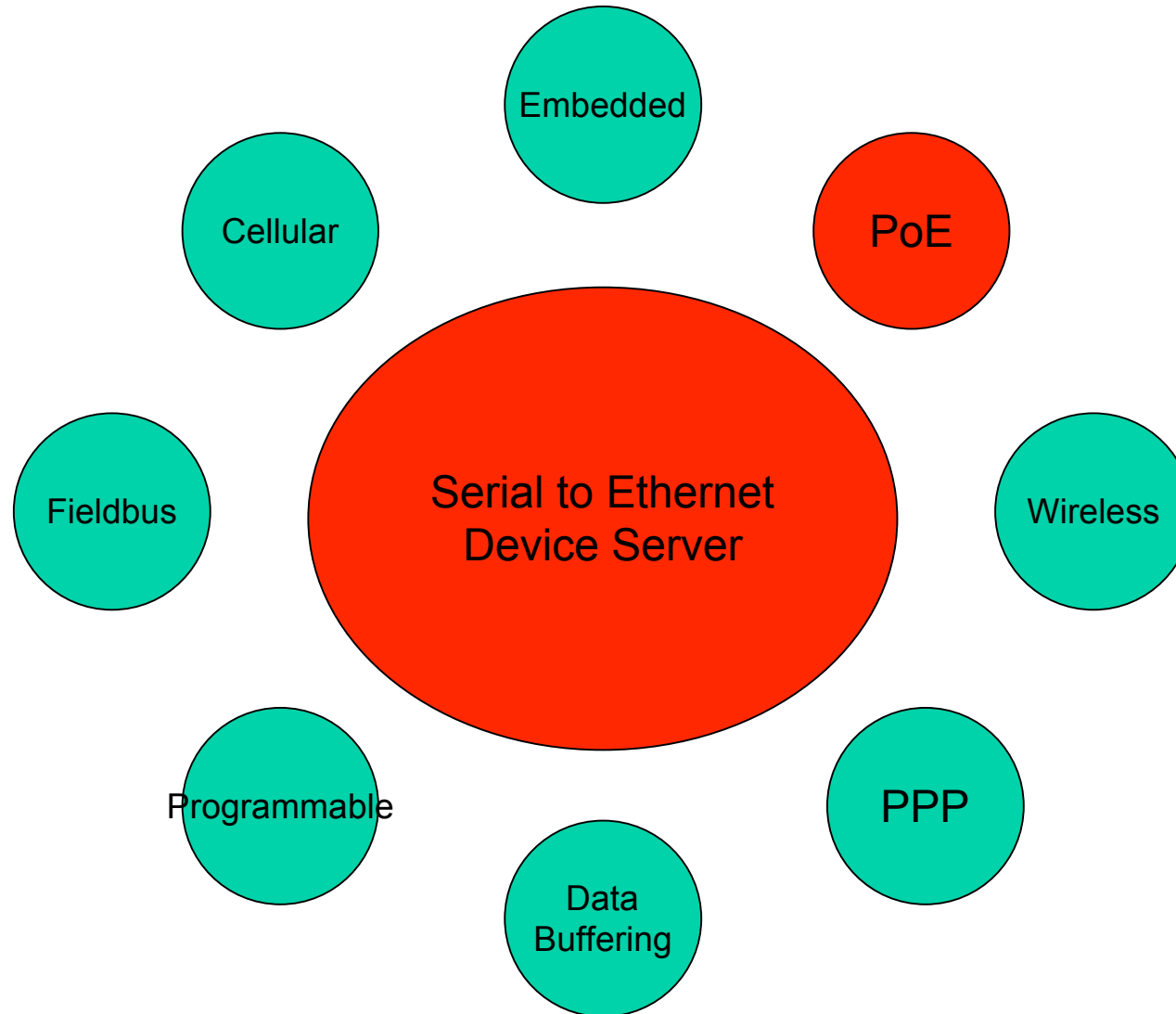
- Quick time to market for OEMs & instrument manufacturers
- Different configurations available
- Complete starter kits ease development
- World's smallest !



Only available outside the Americas



# Device server developments

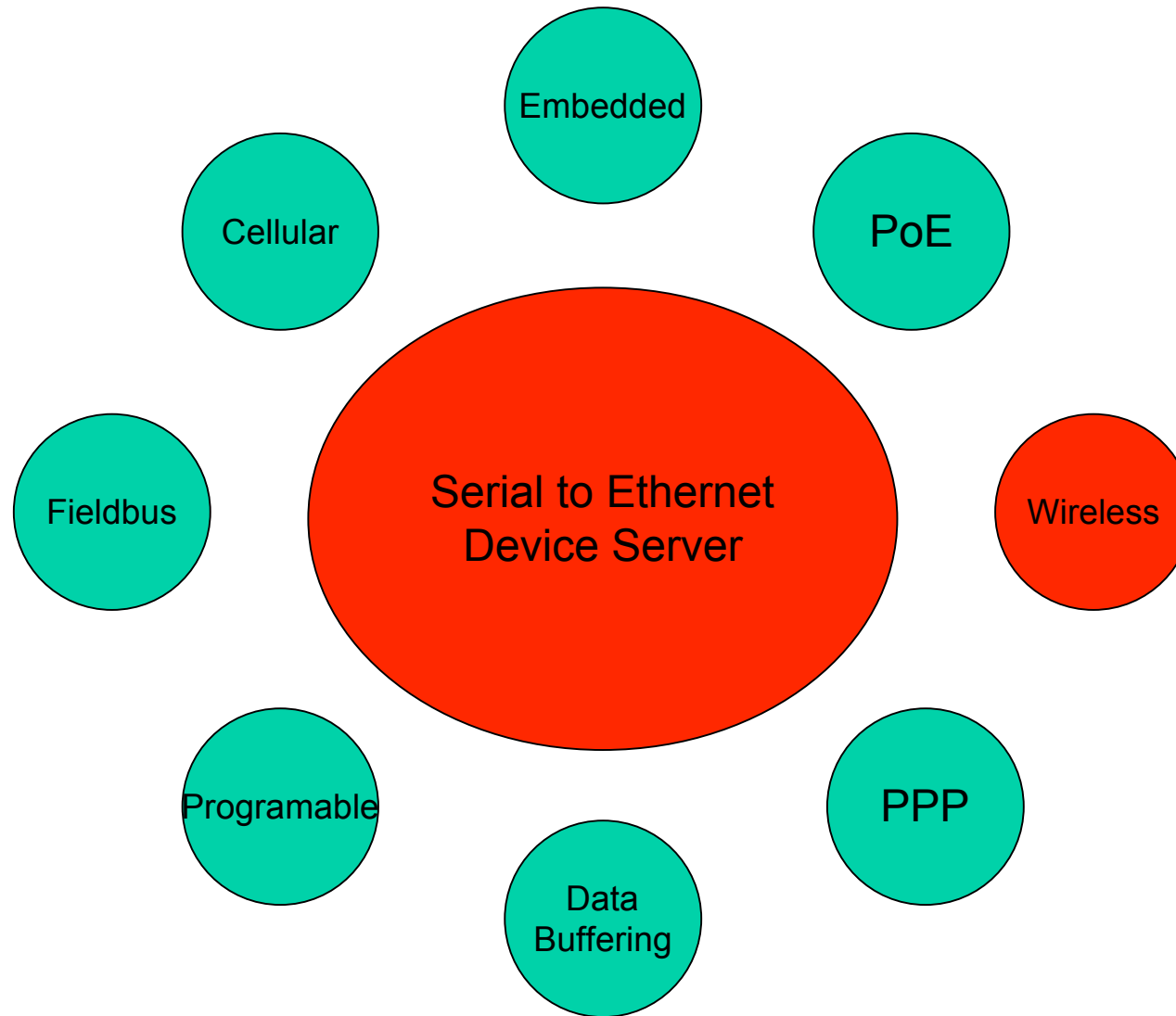


# Power over Ethernet

- PoE device server
- PoE splitter - an underused tool



# Device server developments





# Wireless Device Servers

- Identical to wired counterparts
- Different media - 2.4GHz radio instead of Ethernet cables



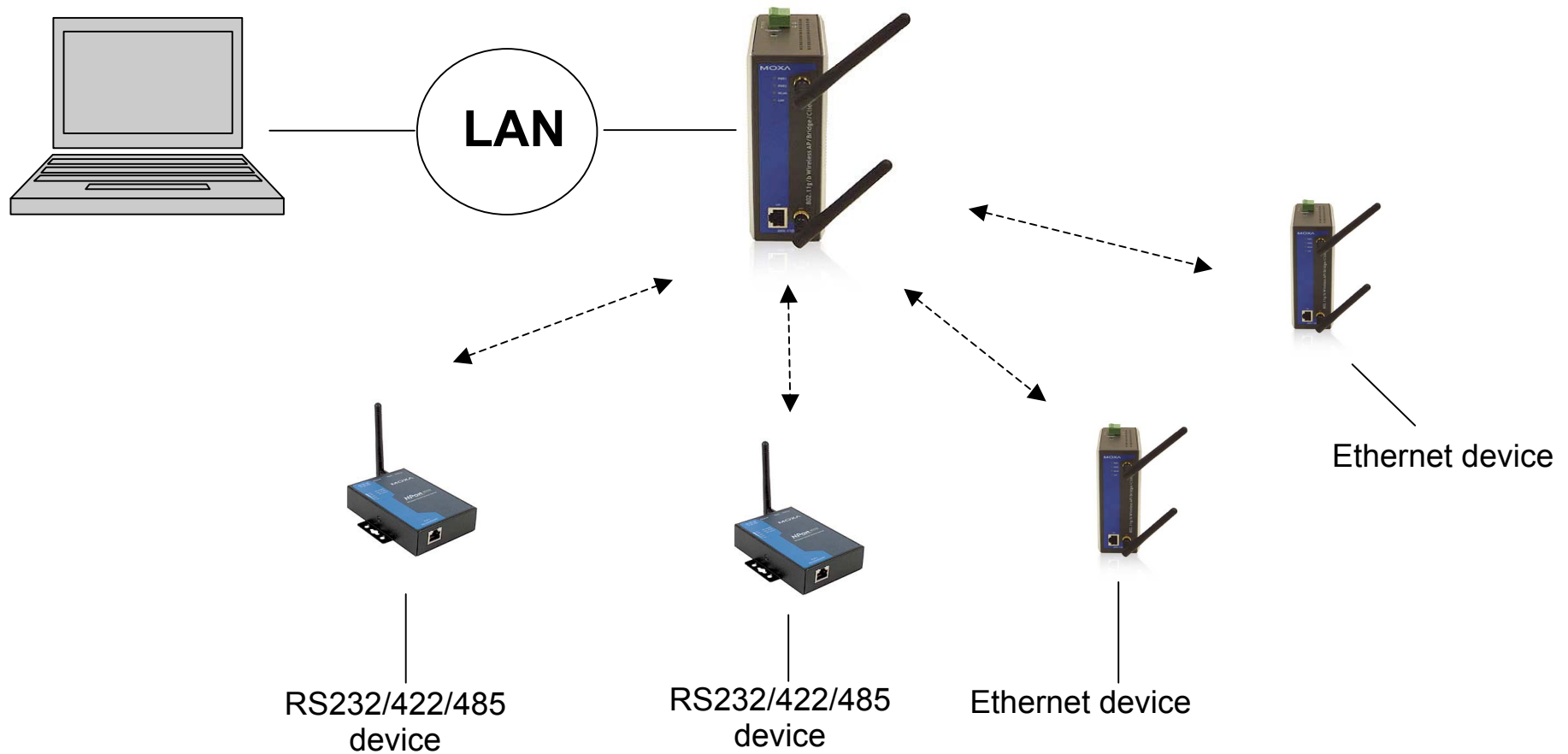
# Serial wireless bridge

- Uses serial encapsulation technology
- Point to point link
- Eg access control / lighting protocols - wireless RS485

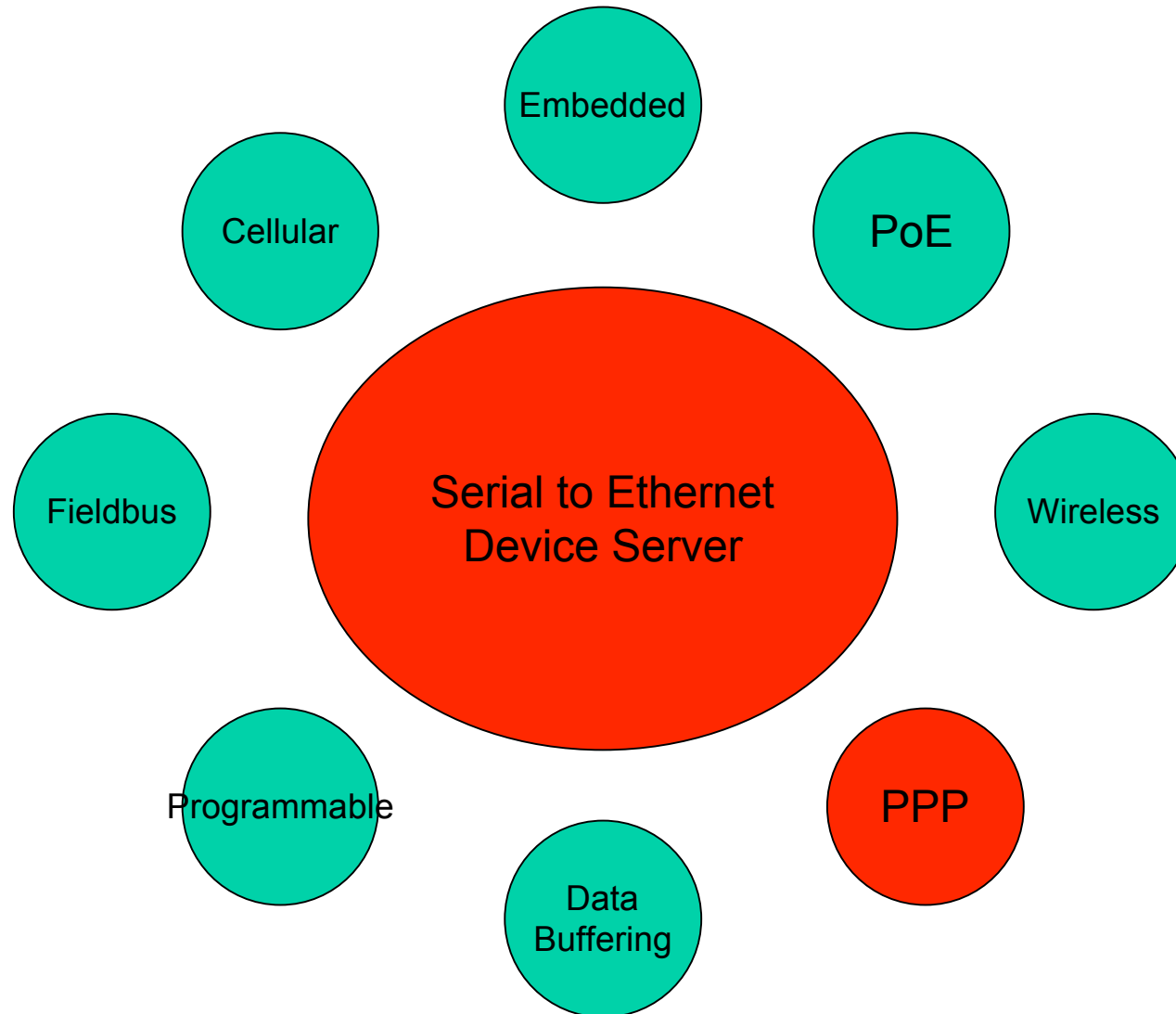


# Integration with existing wireless network

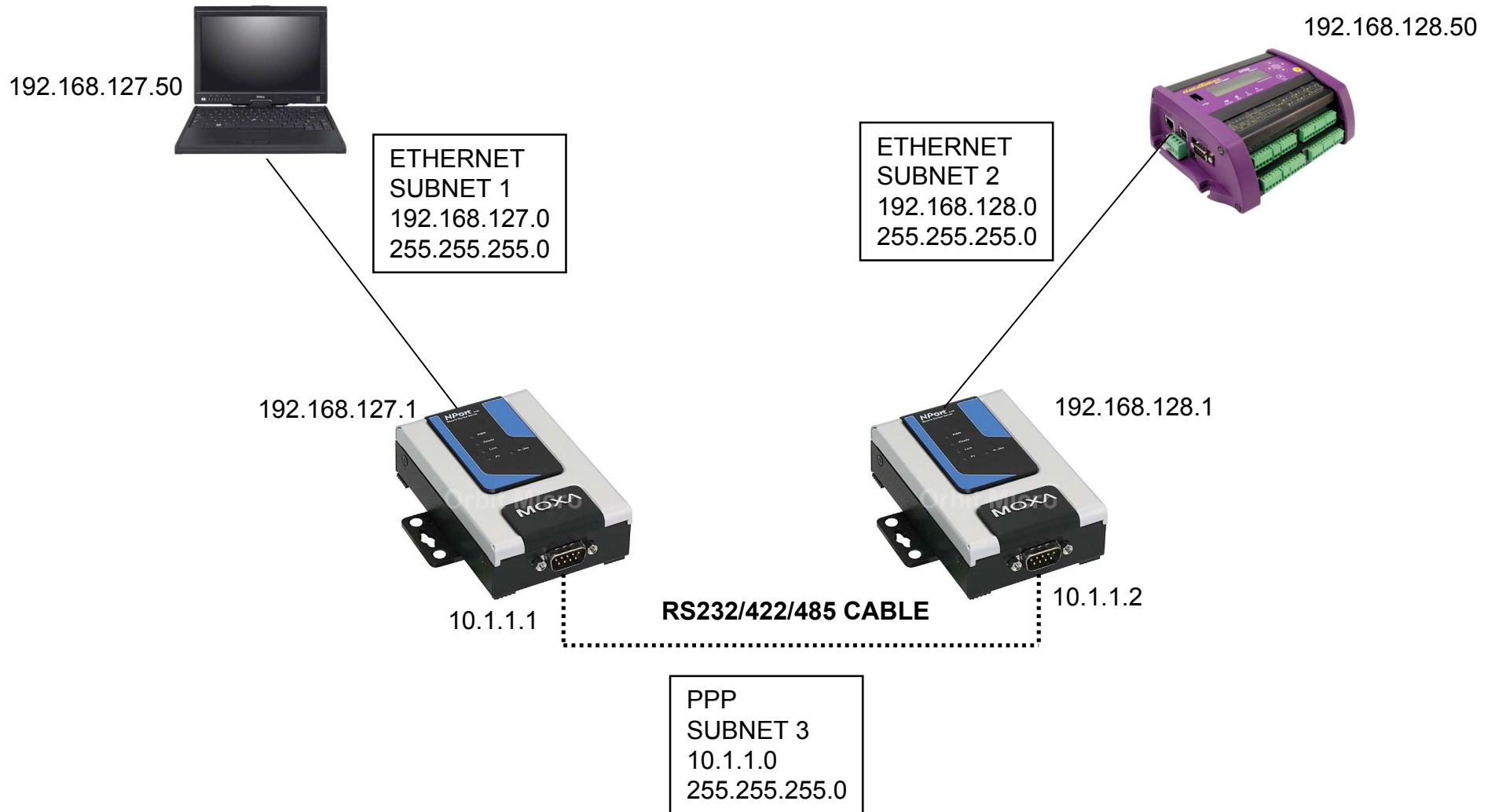
Eg. fork-lift trucks



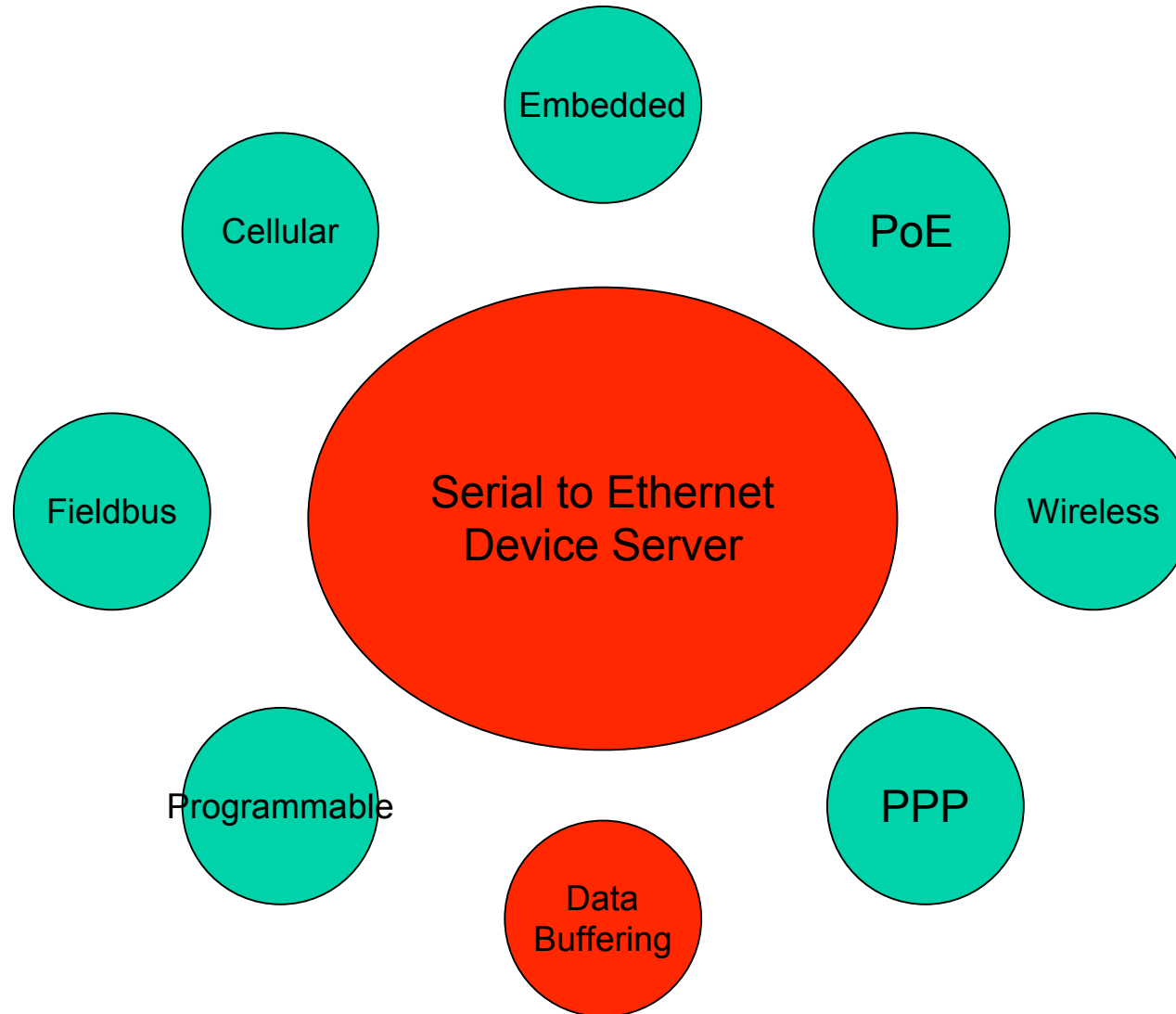
# Device server developments



# Ethernet over Serial!



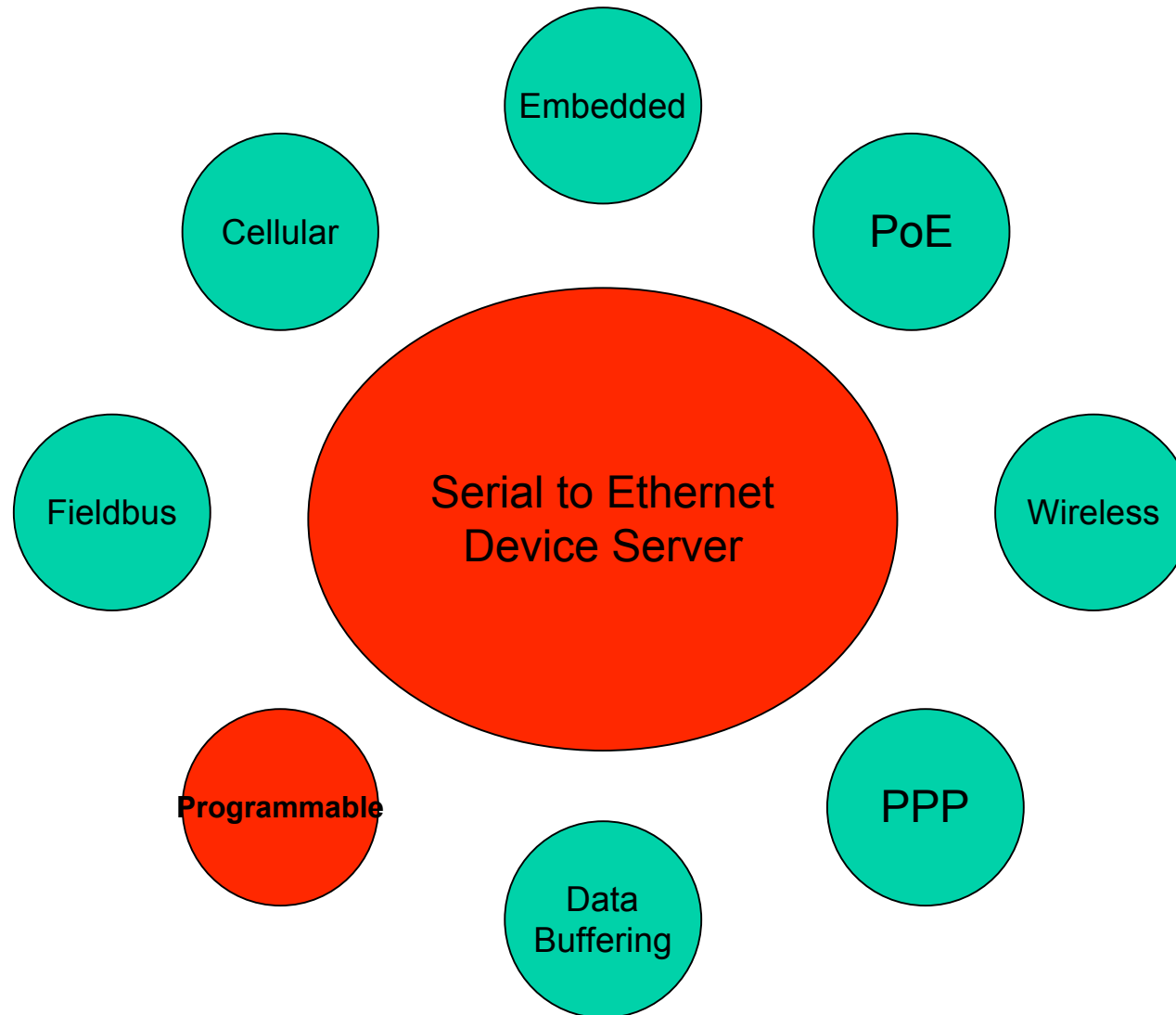
# Device server developments



# Data Buffering

- Device server with 64KB per port onboard
- Buffers data if network down (WAN / GPRS)
- Also able to log data
- External SD card can expand to 1000MB

# Device server developments



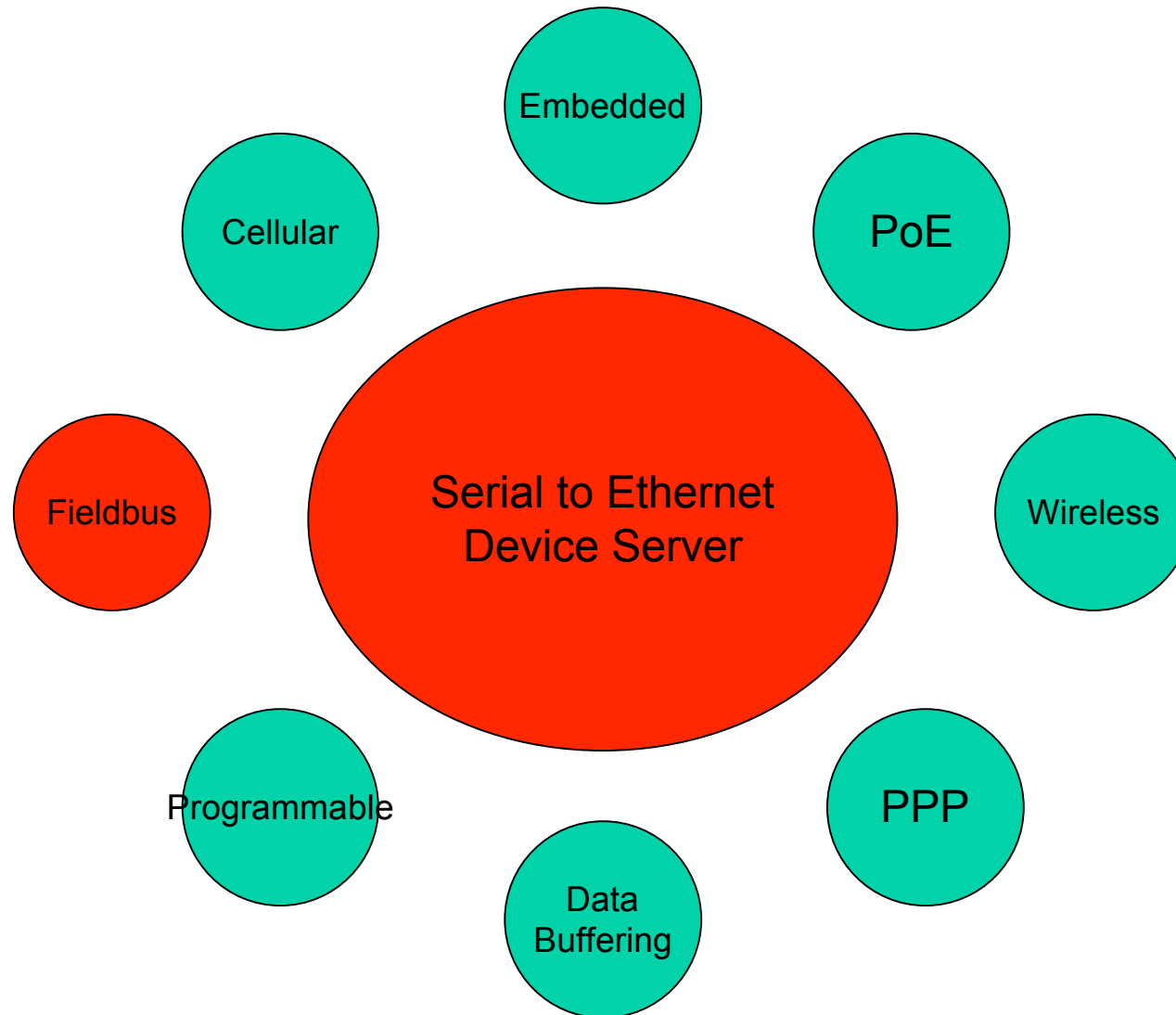


# Programmable Device Servers

- Embed applications onboard
- Replaces a front end PC
- Embedded Linux & bespoke OS
- Serve web pages making a browser the user interface for distributed data
- Software application can be mass deployed once written



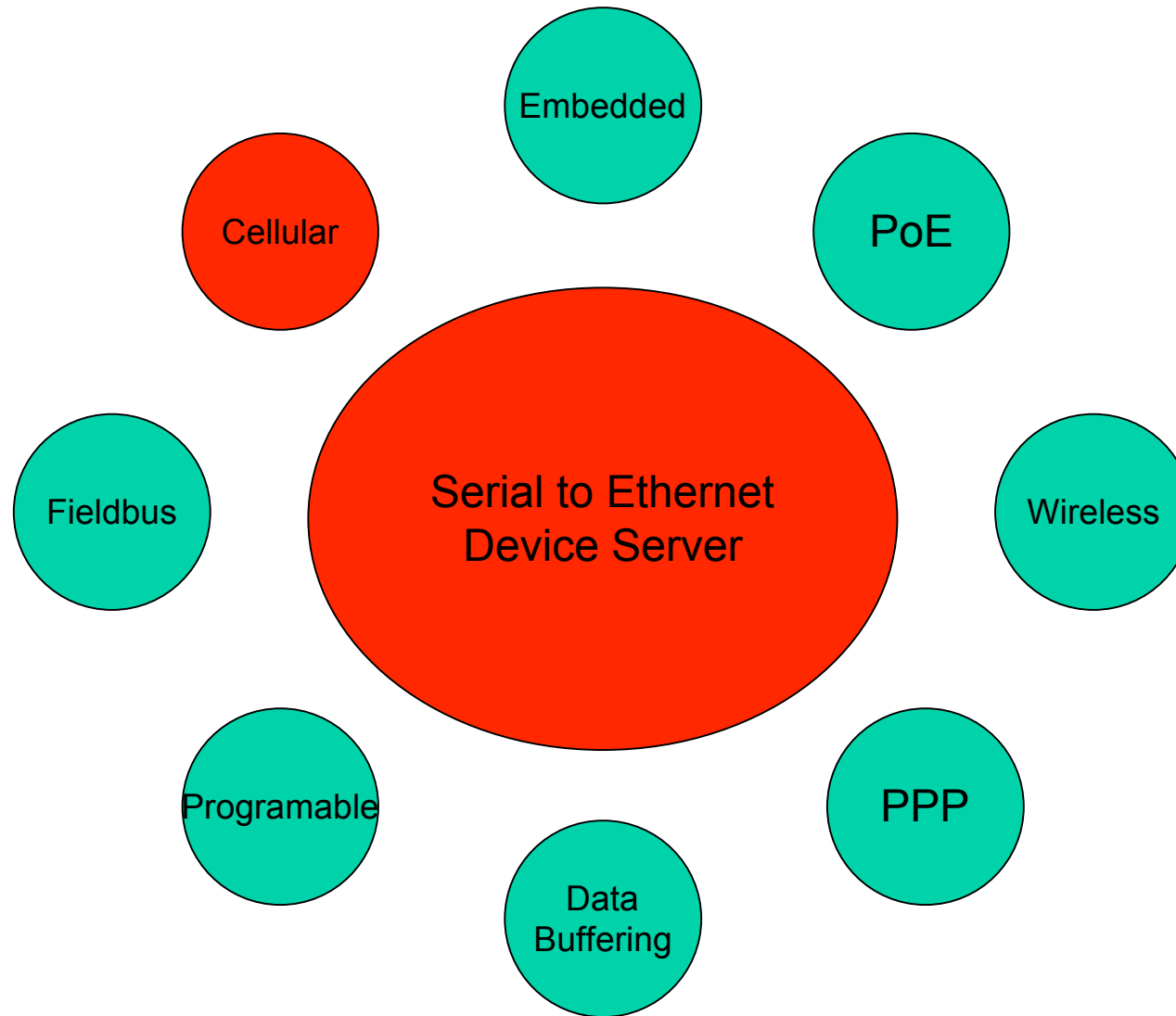
# Device server developments



# Capabilities of a Fieldbus Device Server

Slave Master	MB/ RTU	MB/ ASCII	MB/ TCP	MB/ UDP	DF1 FD	DF1 HD	A-B Eth	E'Net/IP	ASCII
MB/RTU	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MB/ASCII	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MB/TCP	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes
MB/UDP	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes
DF1 FD	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes
DF1 HD	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes
A-B Eth	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes	Yes
E'Net/IP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes
ASCII*	No	No	No	No	No	No	No	No	-

# Device server developments



# Serial to Cellular

- GSM / GPRS Modems been around for years
- IP Modems add virtual COM capability
- Remove complexities of AT commands
- GPRS & 3G variants
- Reverse Realcom makes deployment easy
- Limited to serial - is a router better?



- Thank you.
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