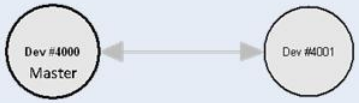
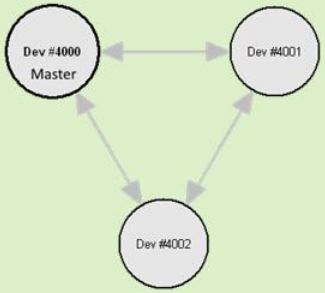
Clan topology



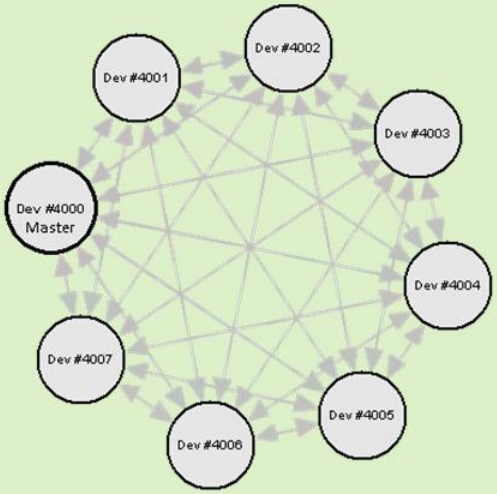
Point-point

Relay

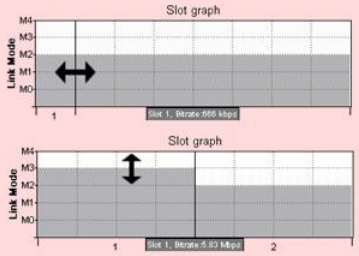
(up to 8 devices in chain)



Mesh

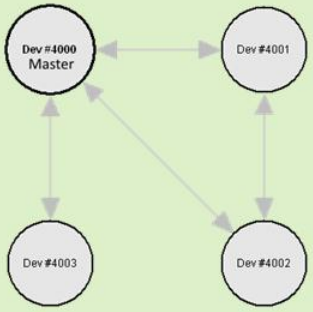


Simple resource scaling

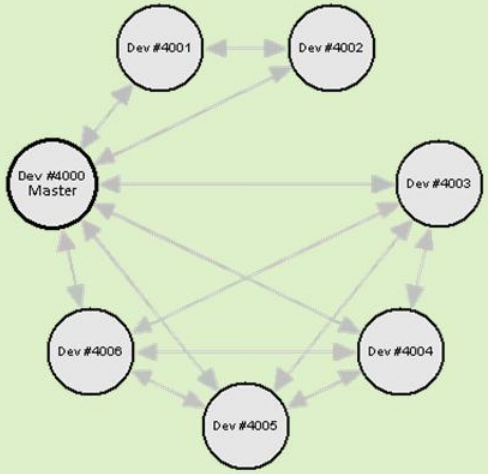


Maximum overall bitrate	**48 Mbit/s**
Maximum device and slot number	8
Bitrate per one device	min. 166 kbit/s max. 41.33 Mbit/s

Transmission Mode	Overall Bitrate [Mbit/s]	RF bandwidth [MHz]	Modulation
M4Q	48	20	QAM16
M4	24	20	QPSK
M3	12	10	QPSK
M2	6	5	QPSK
M1	3	2.5	QPSK
M0	1.5	1.25	QPSK



Mesh / Mixed

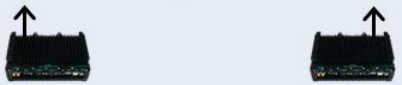


Clan interfaces

Transmit & Receive antenna

Transmission on output connector:

TX1 or TX2



Reception on input connector:

RX1 or RX2 or RX1&RX2 diversity

Antenna types:
- Omni
- Directional
- 2x4 Patch antenna array system, switched from slot-to-slot with dynamic tracking, controlled from Clan device using Antenna MUX LVDS interface.

TX/RX2

TX/RX1

Antenna MUX

GPS Antenna

Active: 3.3V / Passive

Connector: SMA F

Status LEDs

RX TX DC POWER

Power / Work mode

RF Transmission

RF / Link Synchronization

DC IN 9 – 32V DC

Power Source Input

Connector: Erker M

VIDEO CVBS IN

Analog video source for embedded H.264 encoder.
Audio and Video stream can be sent via radio link to the specified Clan node or to any network recipient.
Connector: SMA F

MISC

Microphone LR, mic. Power supply 3.3V, headphones, status line in, status line out, on/off, +12V power supply output.
Connector: DSUB09 F

USB 2.0 HOST

Two port USB Host for USB Device handling e.g. Mass Storage Devices
Connector: USB AA

USB 2.0 Device

USB Device for system monit. & configuration, firmware update.
Connector: USB B

VIDEO CVBS OUT

Analog video output from embedded H.264 decoder.
Audio and Video stream can be received and decoded from specified Clan node.

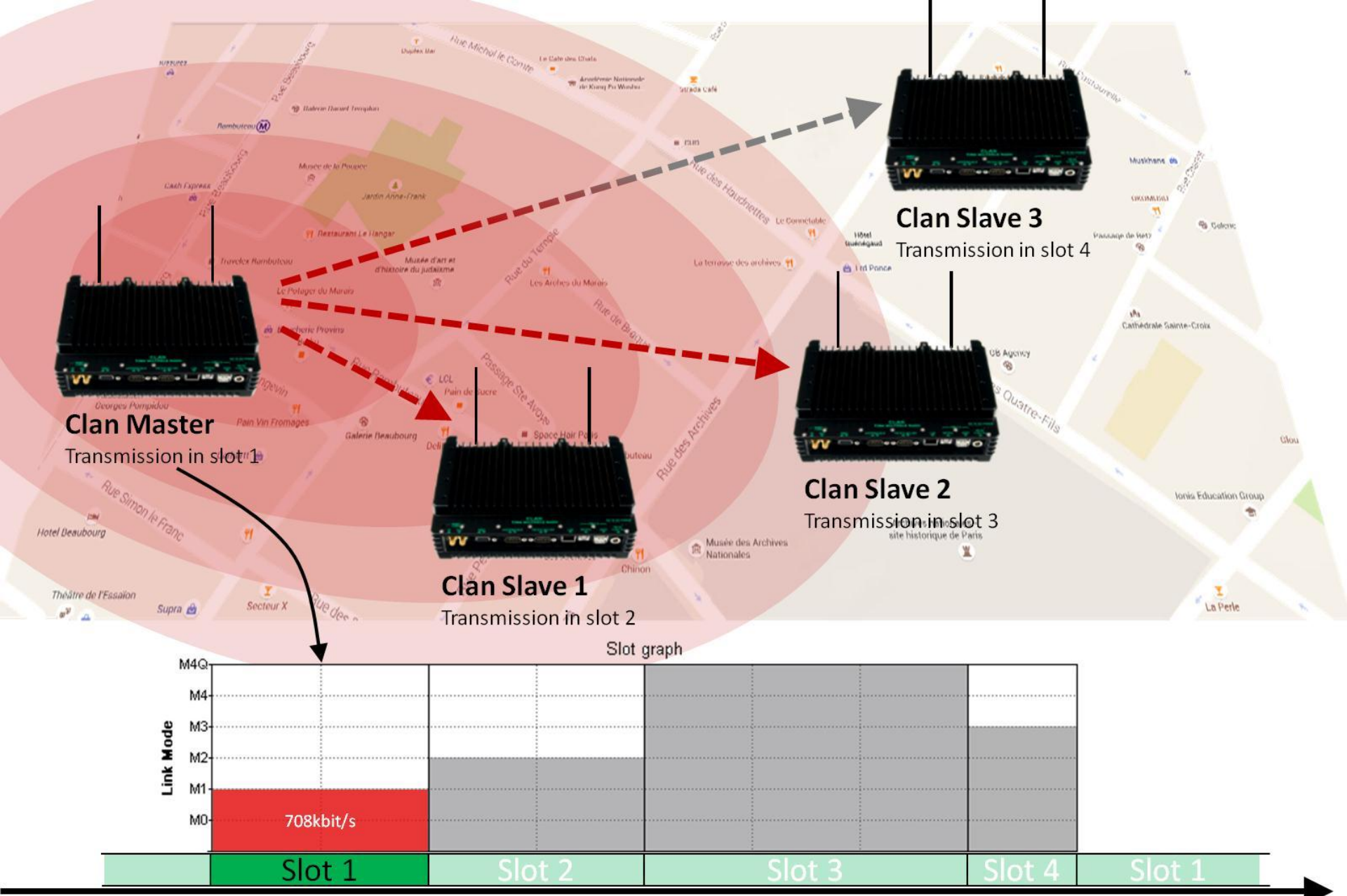
Connector: SMA F

RS 232/422/485

Transparent asynchronous serial port interfaces for communication with remotely connected devices e.g. PTZ camera.
Connector: DSUB09 M

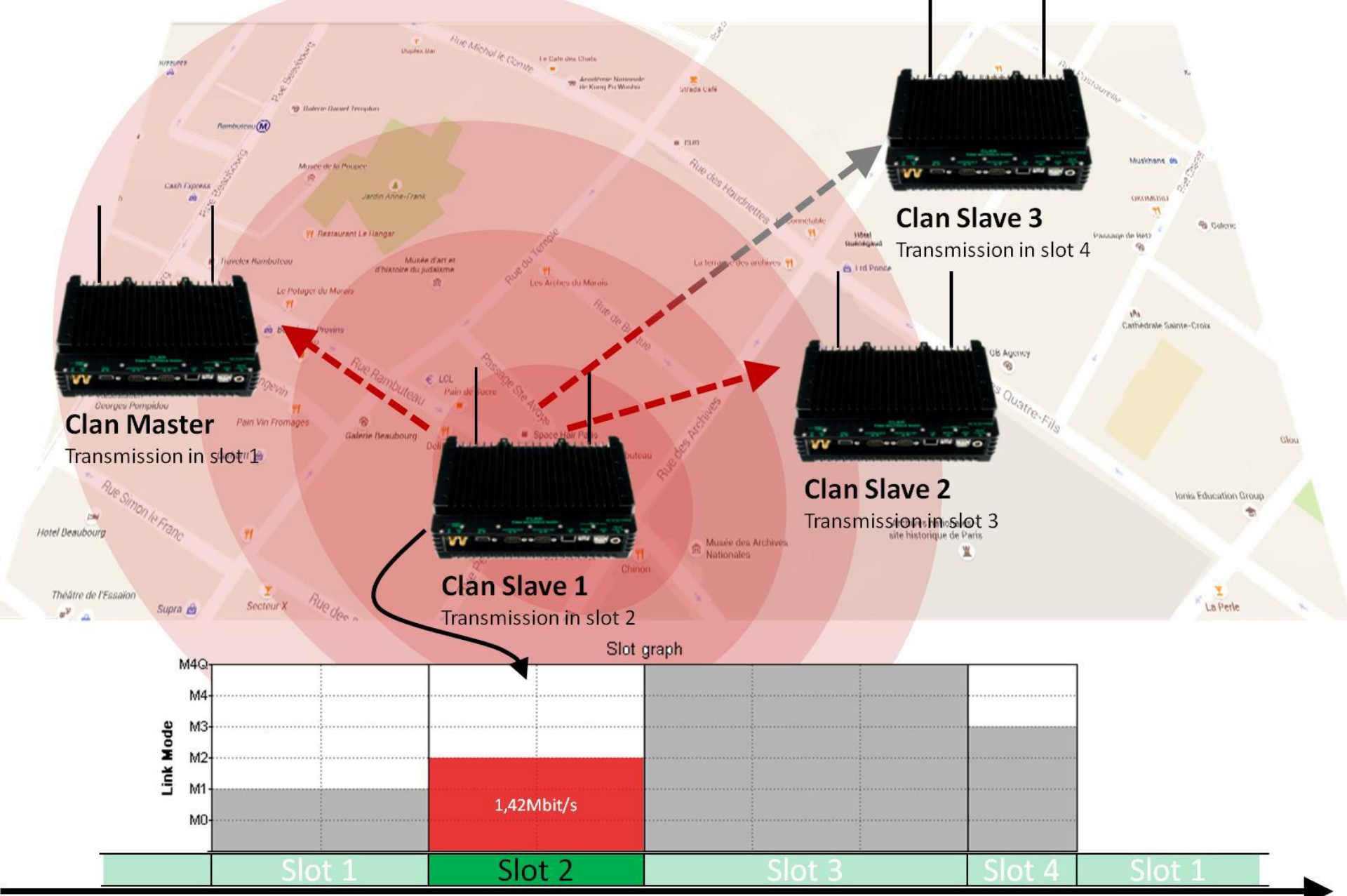
LAN

Main network interface, Clan system monit., configuration and A/V streaming
Connector: RJ45



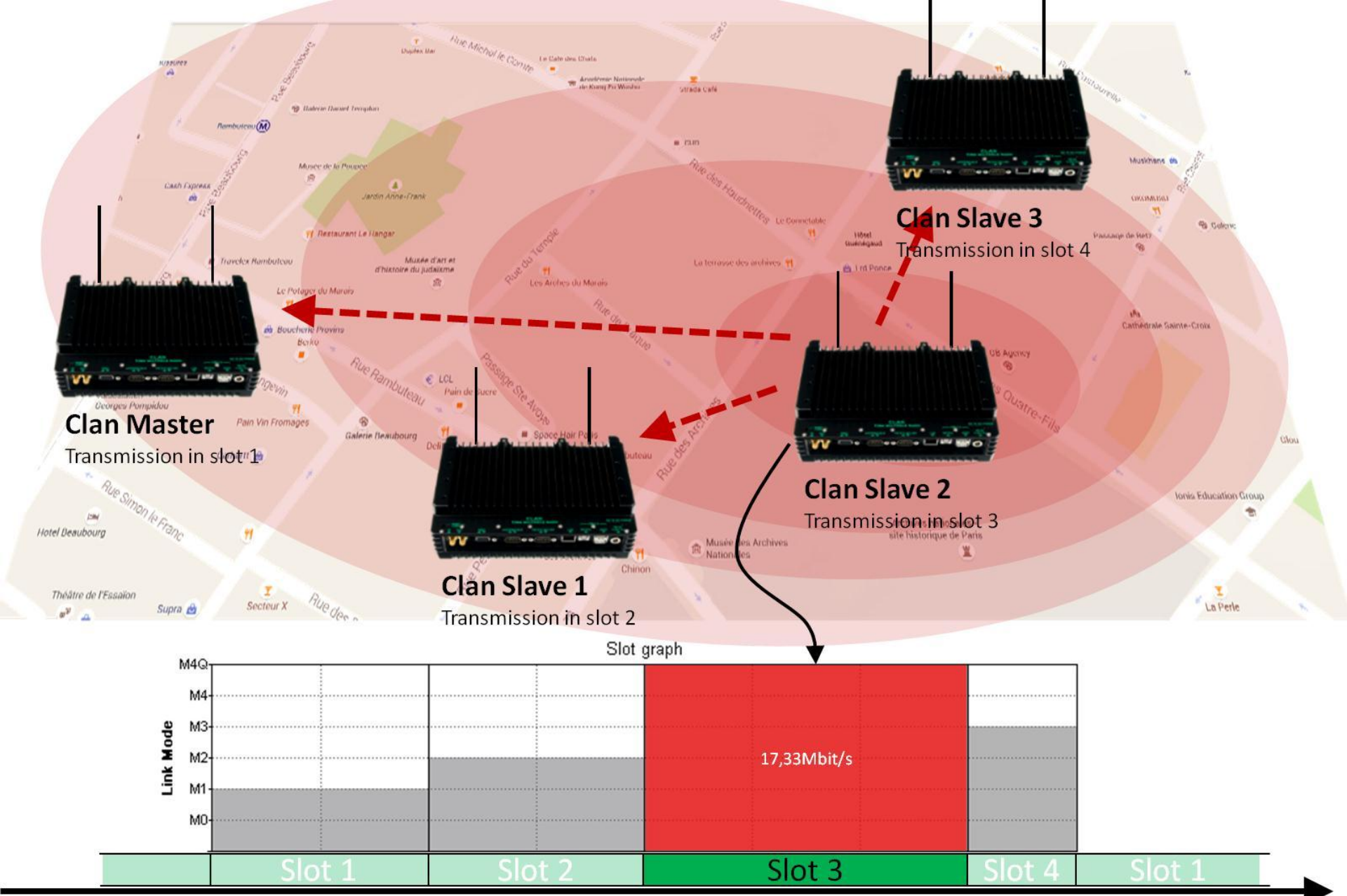
1 / 4 View of the system's operation in mesh topology with omnidirectional antennas.

The Master device transmits IP packets in slot 1 with 708kbit/s throughput, while other devices receive signal from the Master.



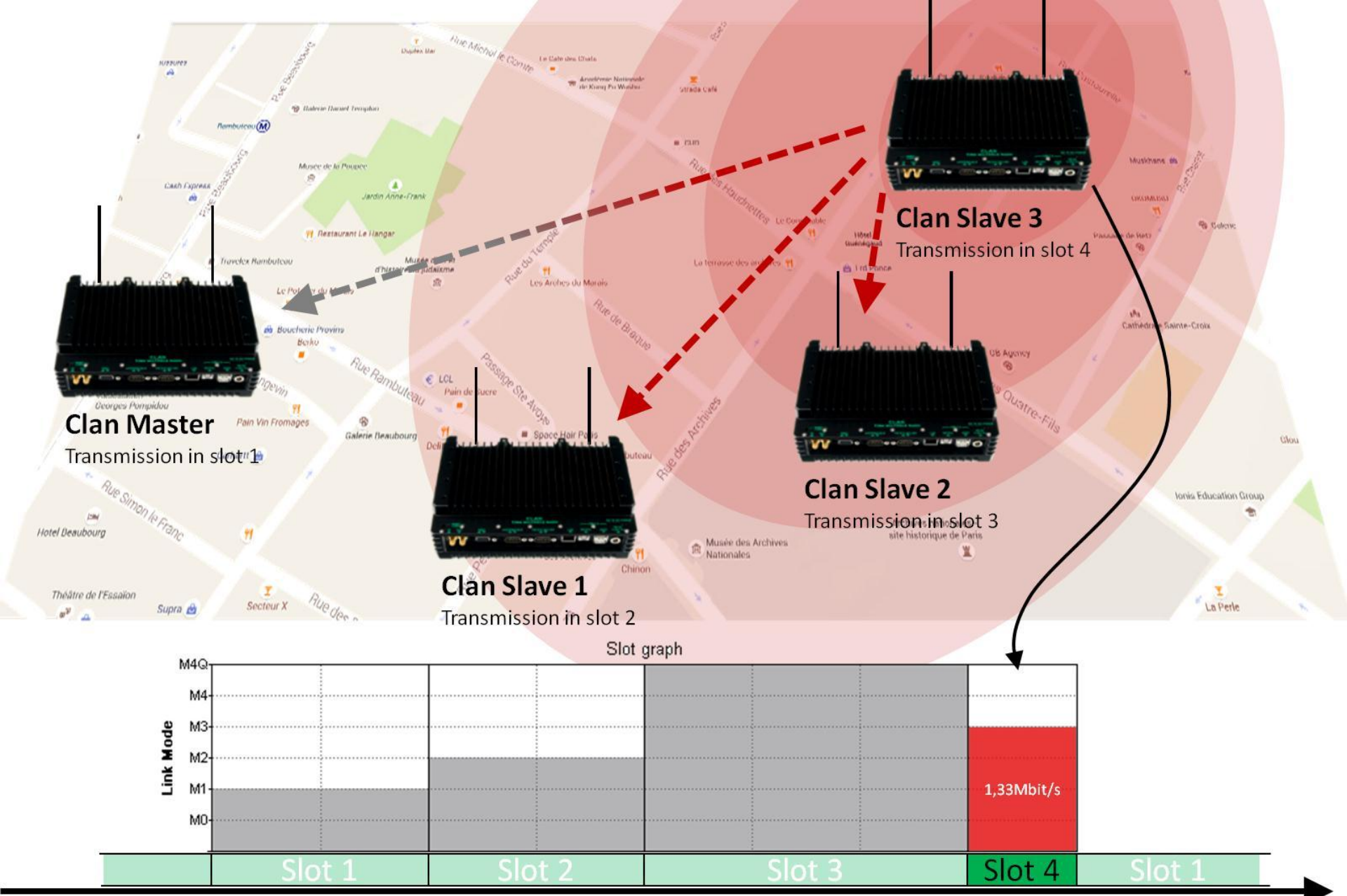
2 / 4 View of the system's operation in mesh topology with omnidirectional antennas.

The Slave 1 device transmits IP packets in slot 2 with 1,42Mbit/s throughput, while other devices receive signal.



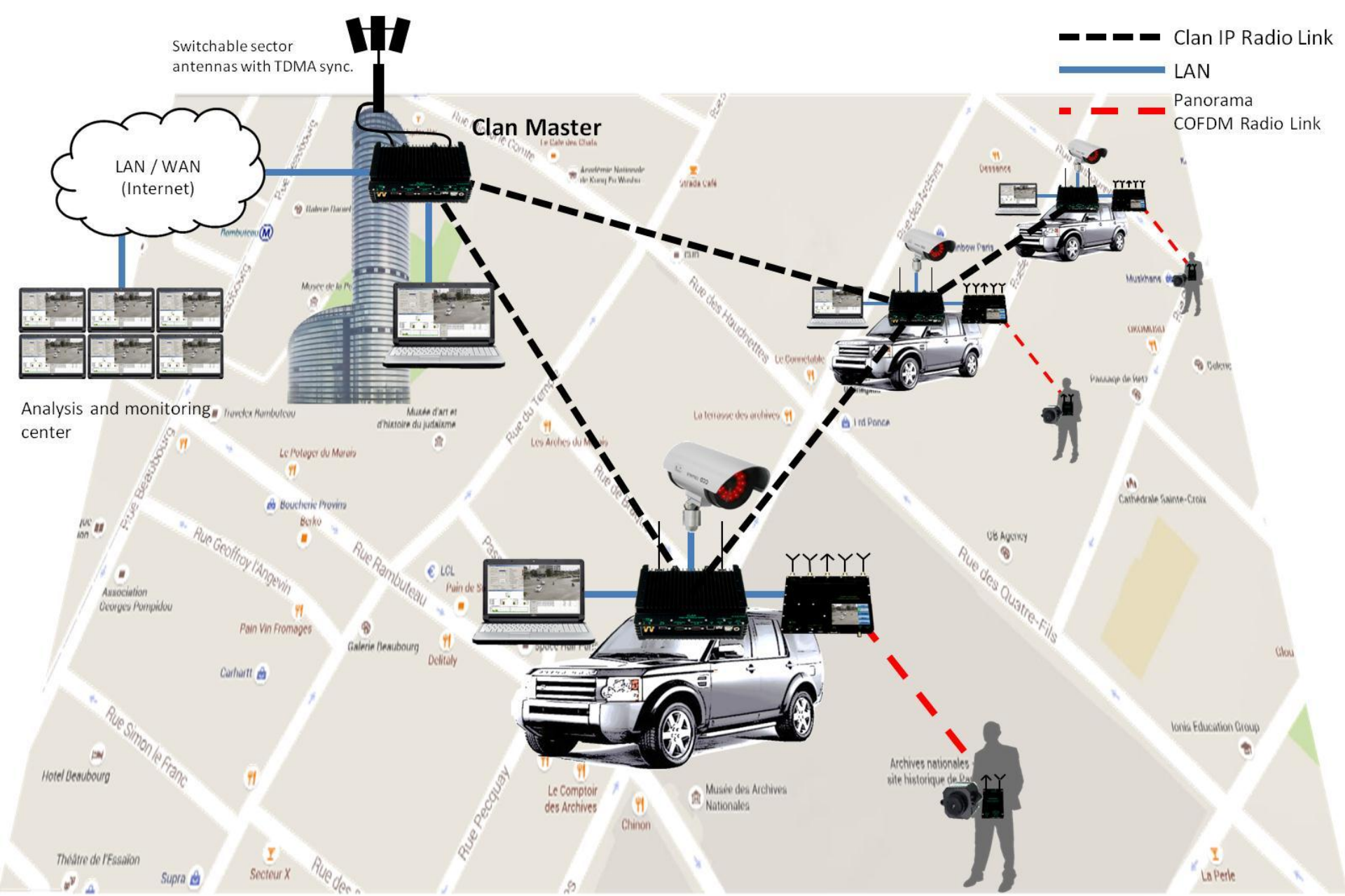
3 / 4 View of the system's operation in mesh topology with omnidirectional antennas.

The Slave 2 device transmits IP packets in slot 3 with 17,33Mbit/s throughput, while other devices receive signal.

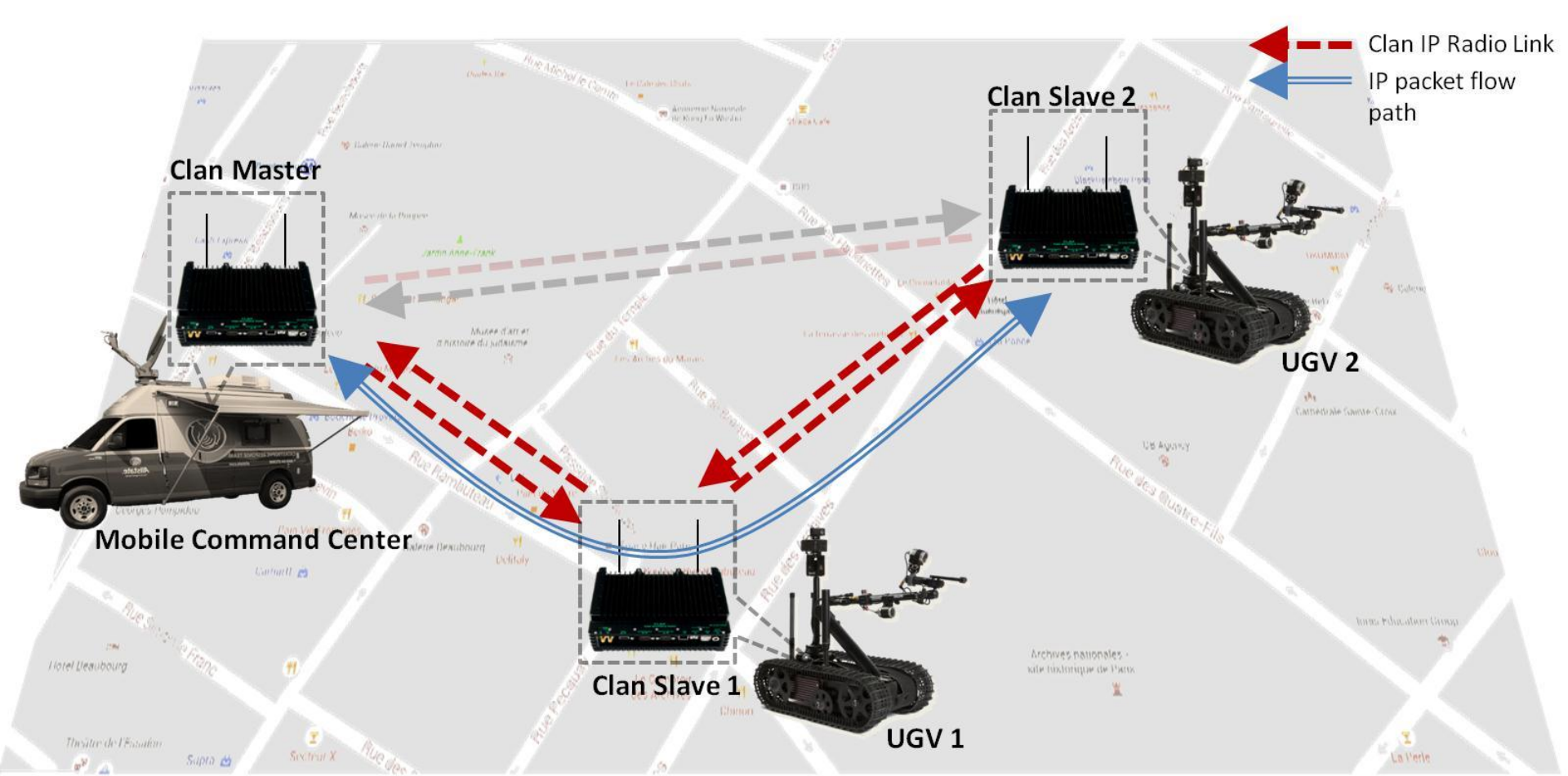


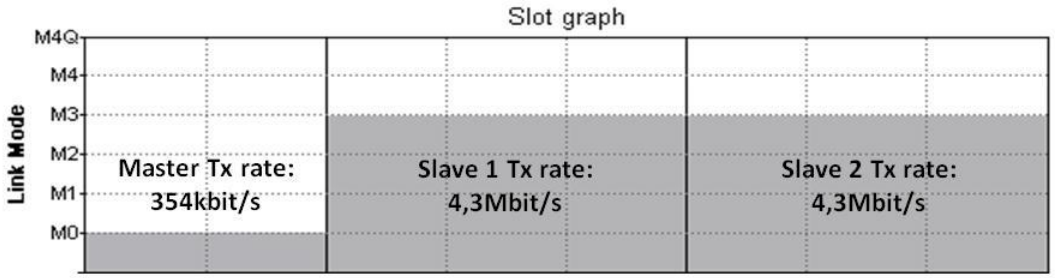
4 / 4 View of the system's operation in mesh topology with omnidirectional antennas.

The Slave 3 device transmits IP packets in slot 4 with 1,33Mbit/s throughput, while other devices receive signal.



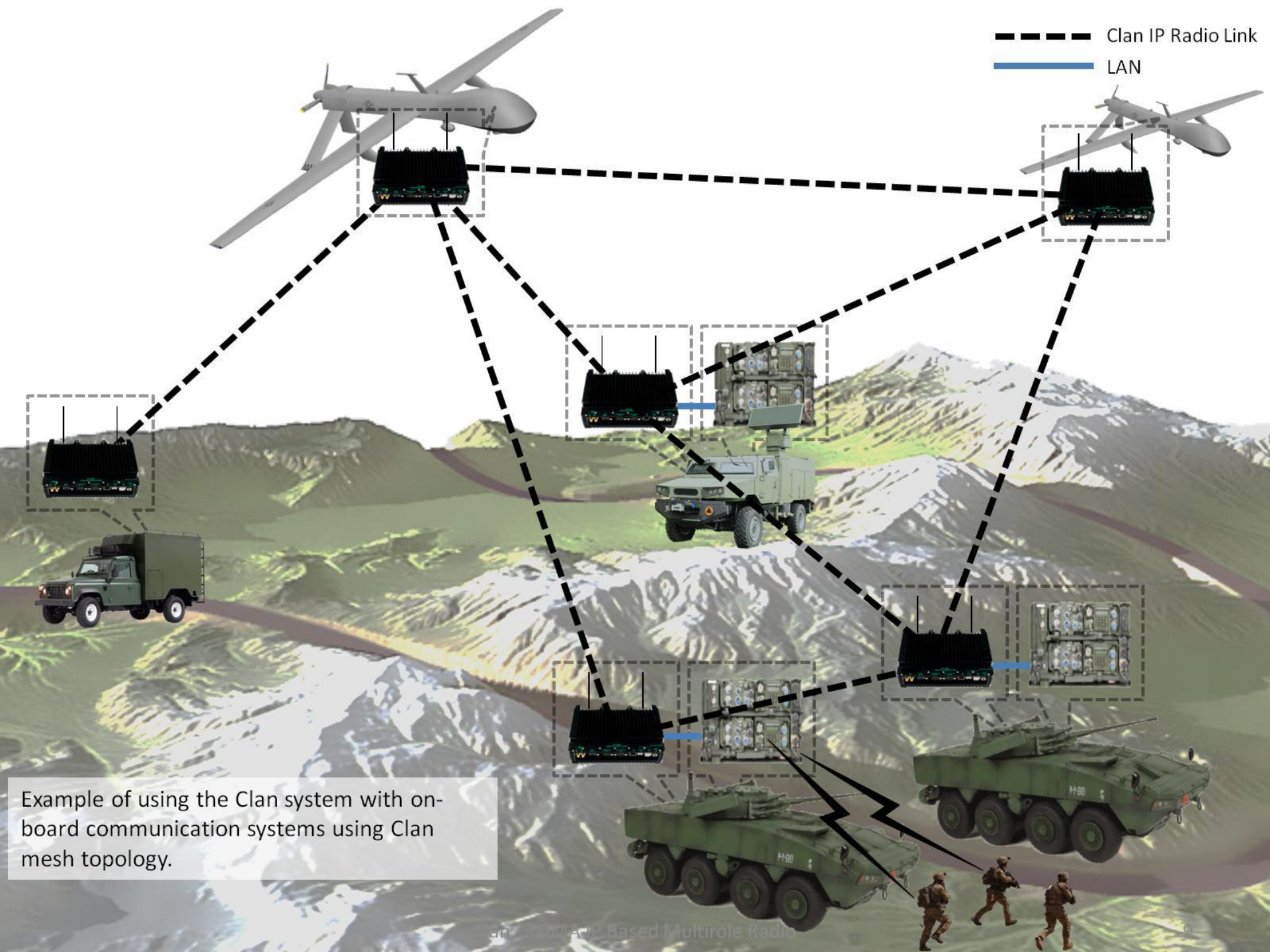
Sample setup using the Clan system as the access point and mobile stations. Clan access point is equipped with a dynamically switched - slot-to-slot - patch antenna system while mobile station are connected through the IP interface with devices such as IP cameras, Panorama devices, PCs, etc.).



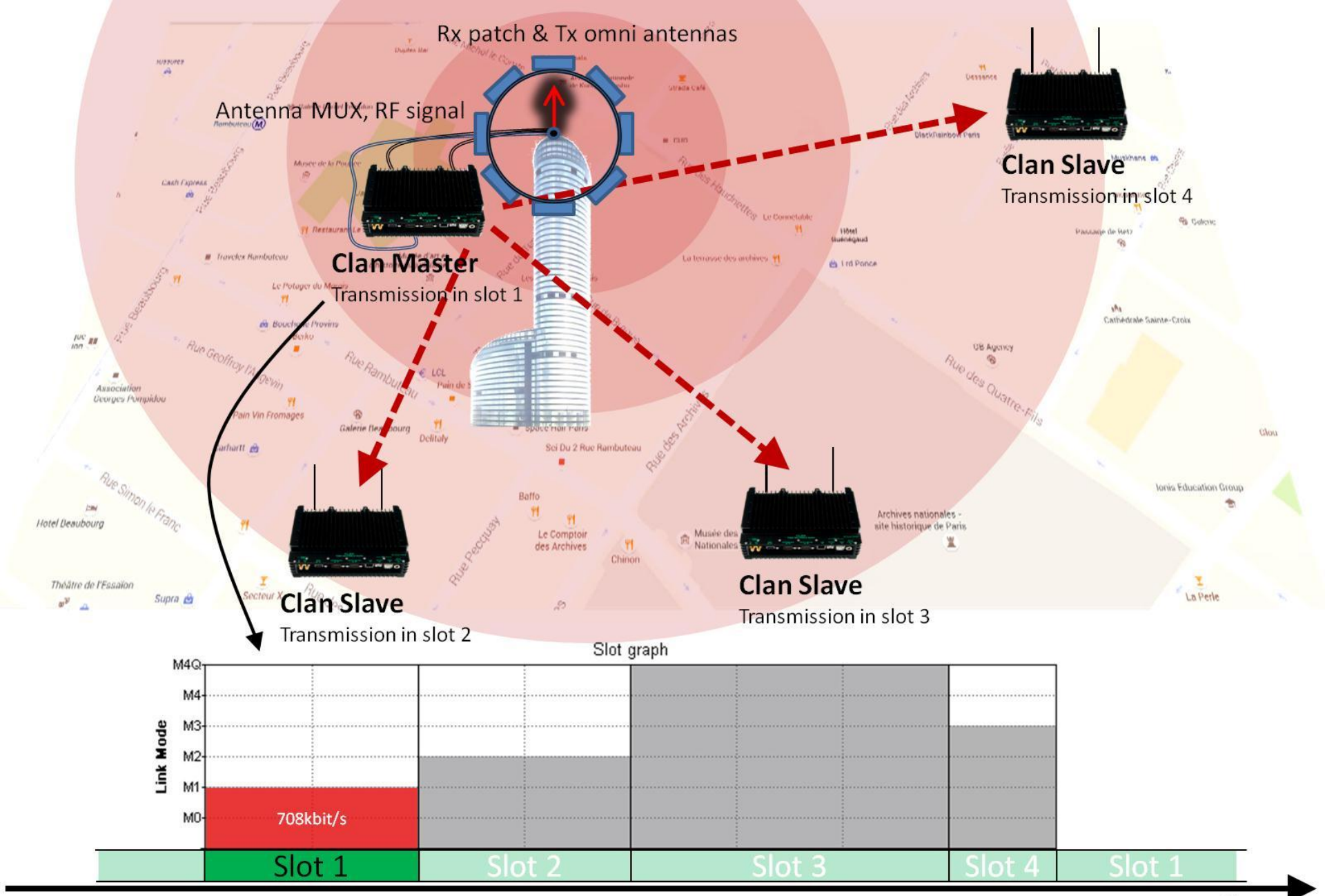


Example of the Clan system's IP packet routing functionality.

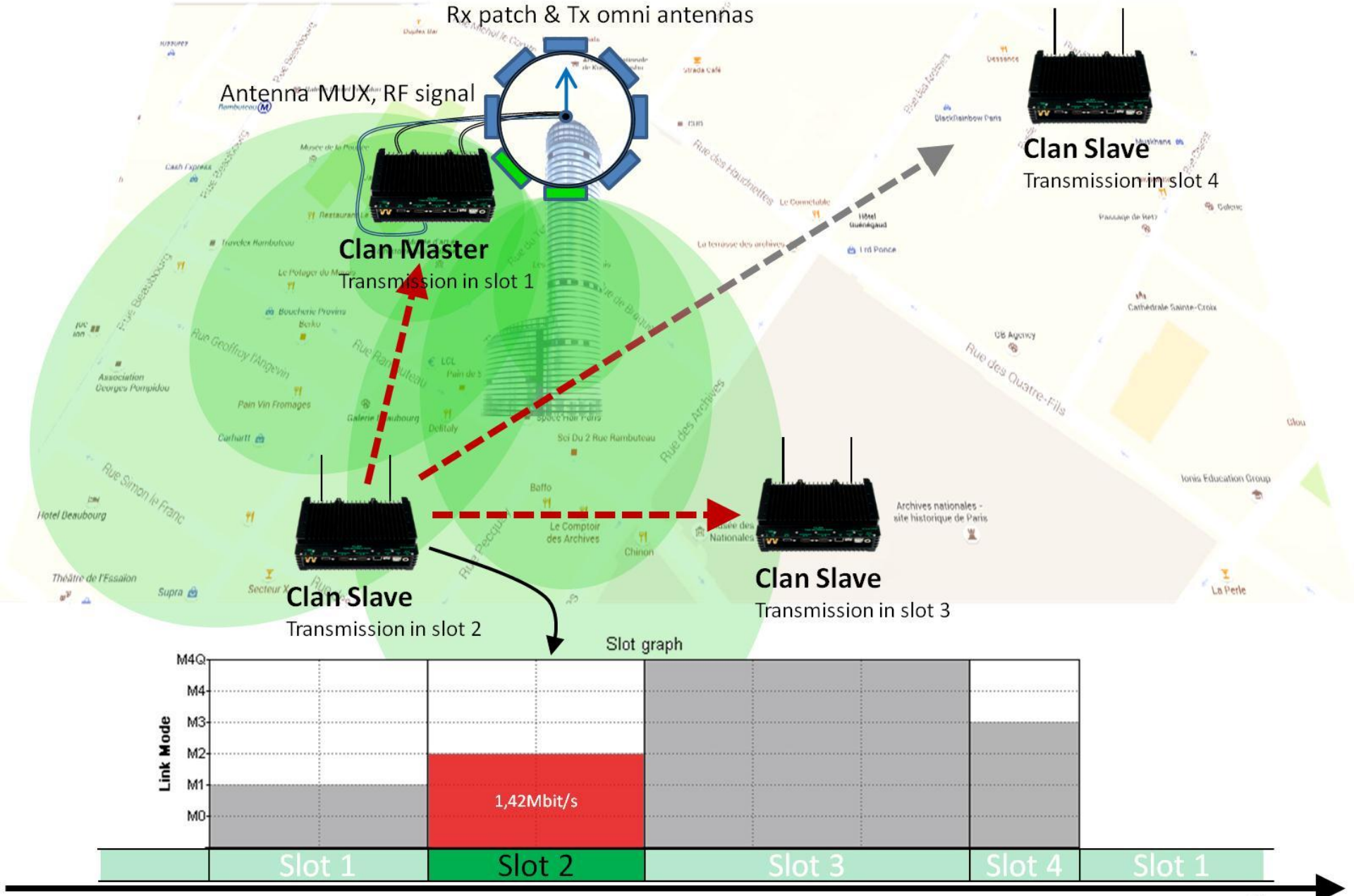
The ability to route packets increases the range of the system's radio link. Duplex communication between outermost nodes can be supported by up to 6 nodes.



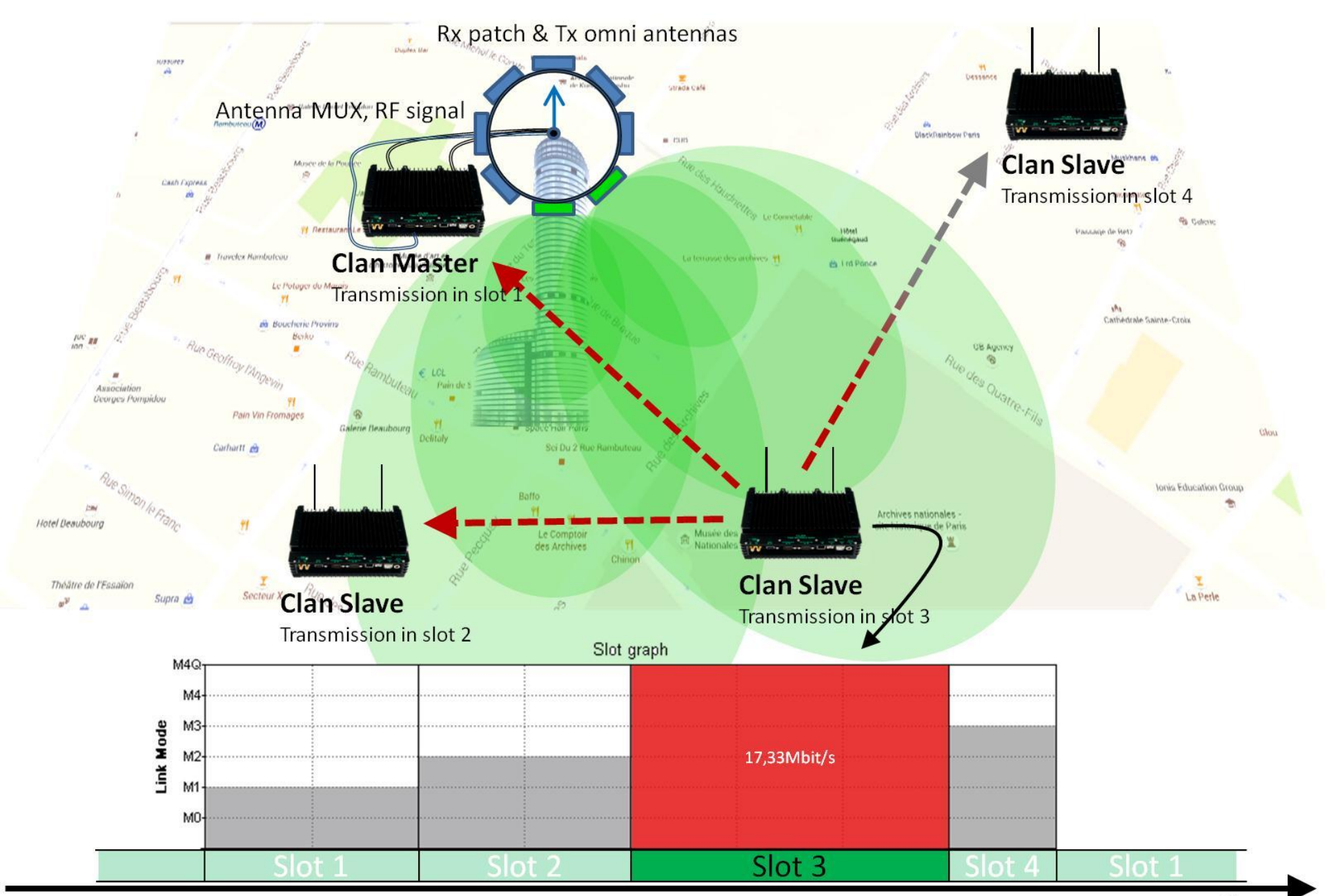
Example of using the Clan system with on-board communication systems using Clan mesh topology.



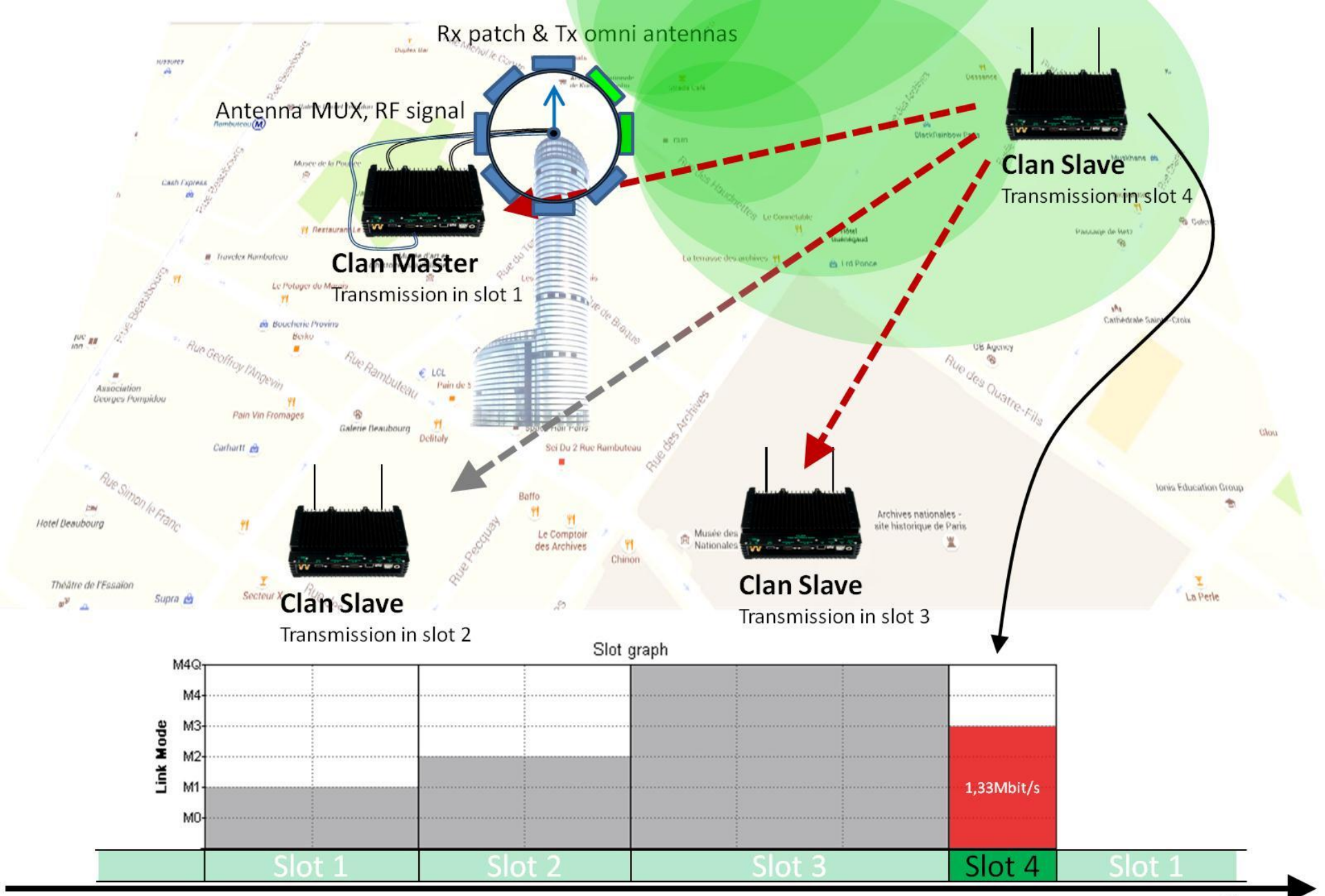
1 / 4 View of the Clan system's operation in mesh topology, with a system of patch antennas connected to the Master device.



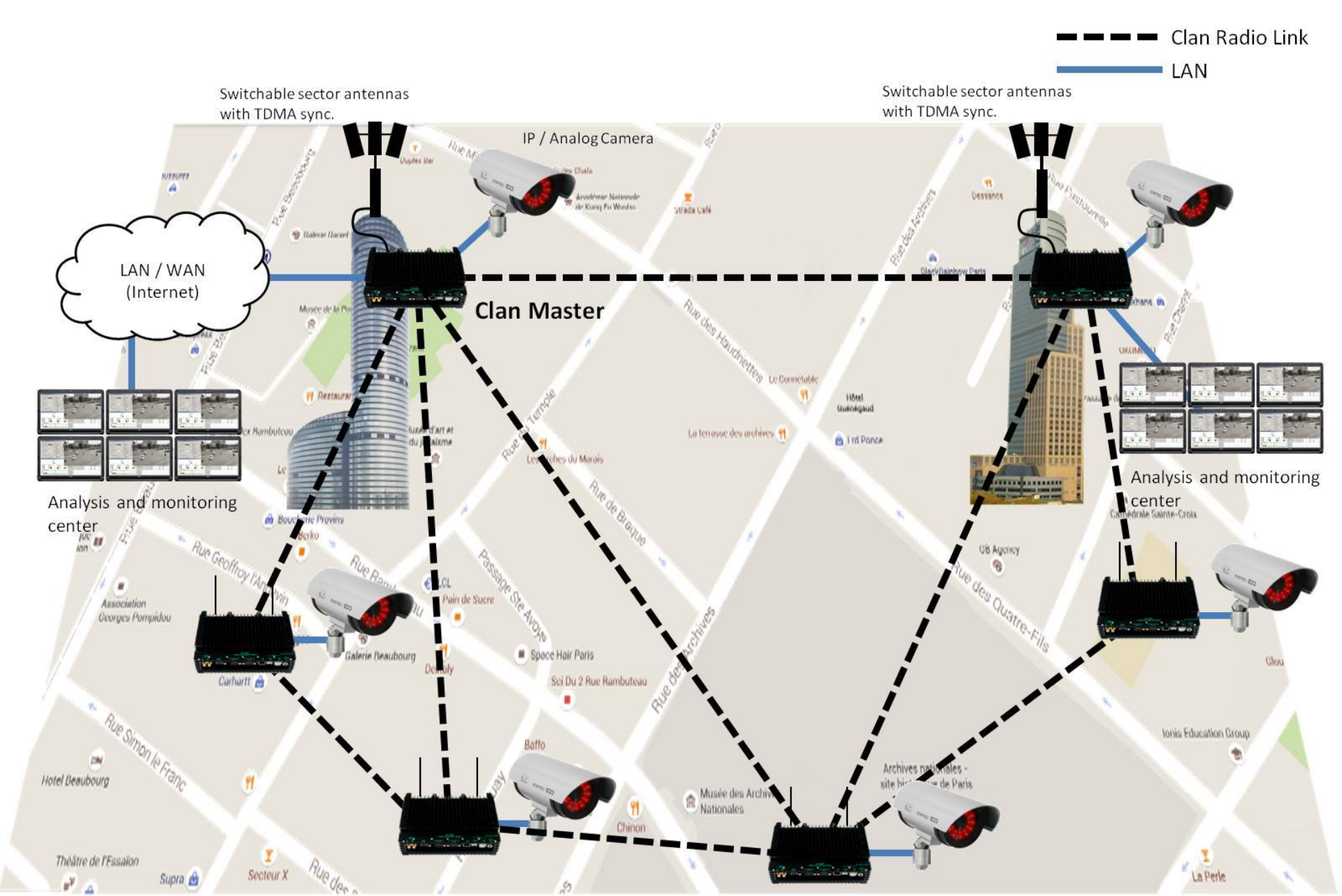
2 / 4 View of the Clan system's operation in mesh topology, with a system of patch antennas connected to the Master device.



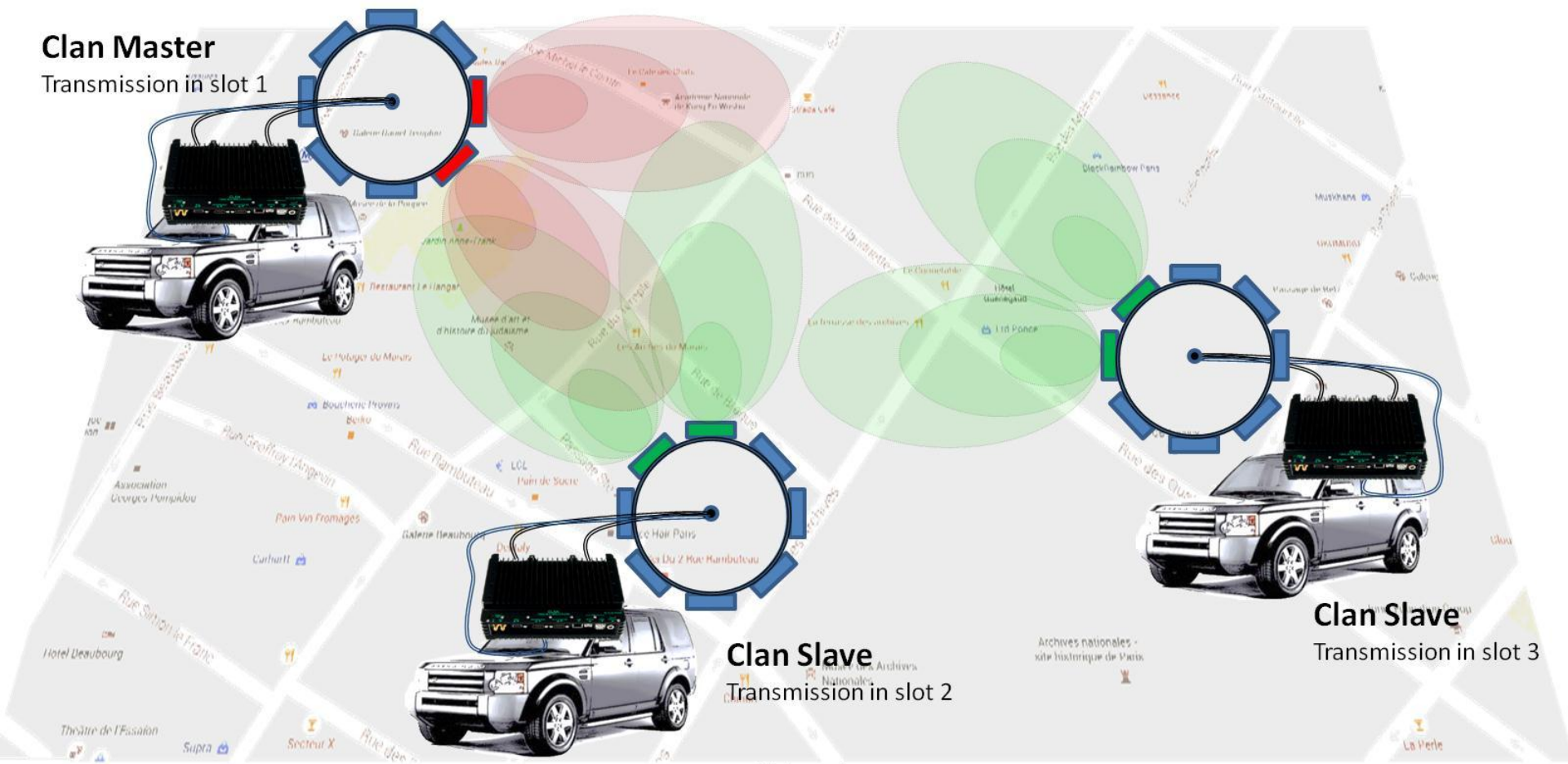
3 / 4 View of the Clan system's operation in mesh topology, with a system of patch antennas connected to the Master device.

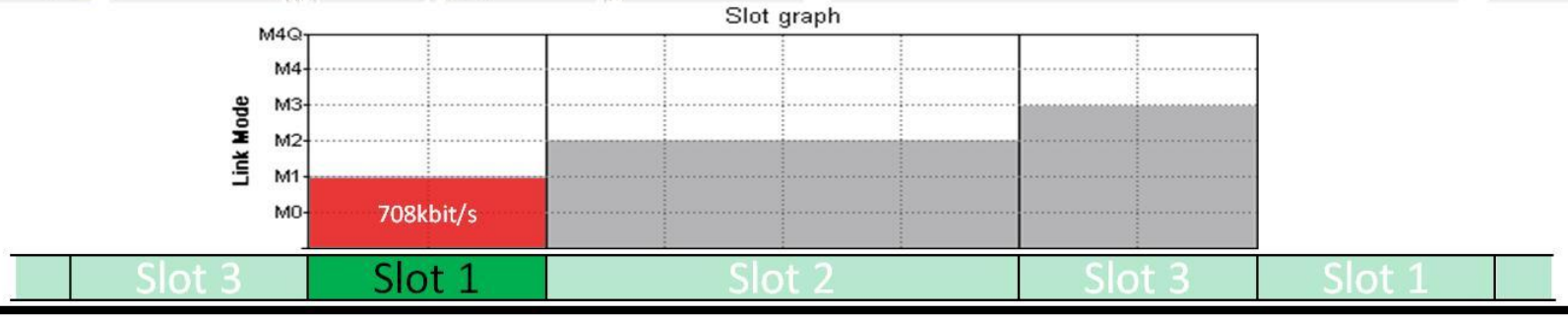


4 / 4 View of the Clan system's operation in mesh topology, with a system of patch antennas connected to the Master device.

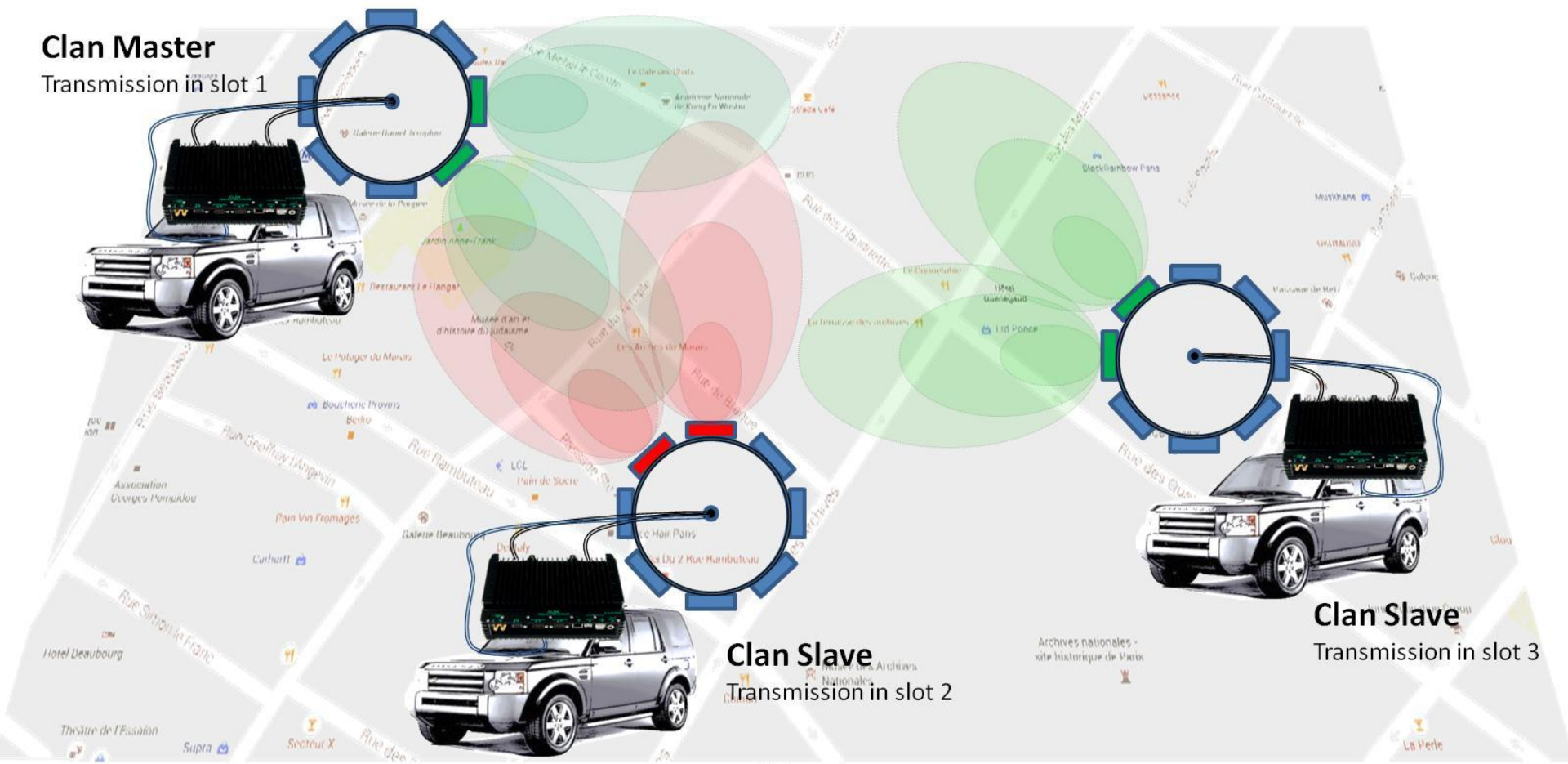


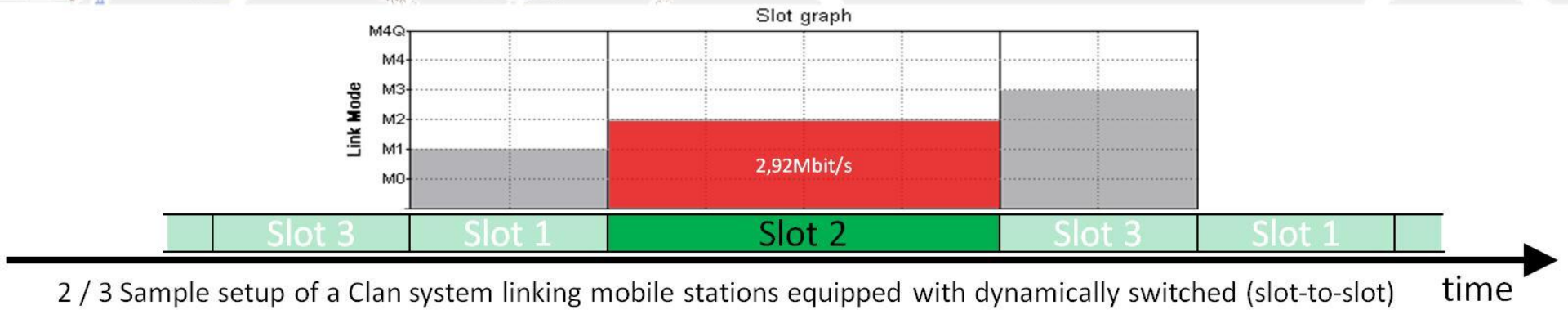
Sample setup of a Clan system with two nodes equipped with a dynamically switched (slot-to-slot) system of patch antennas.



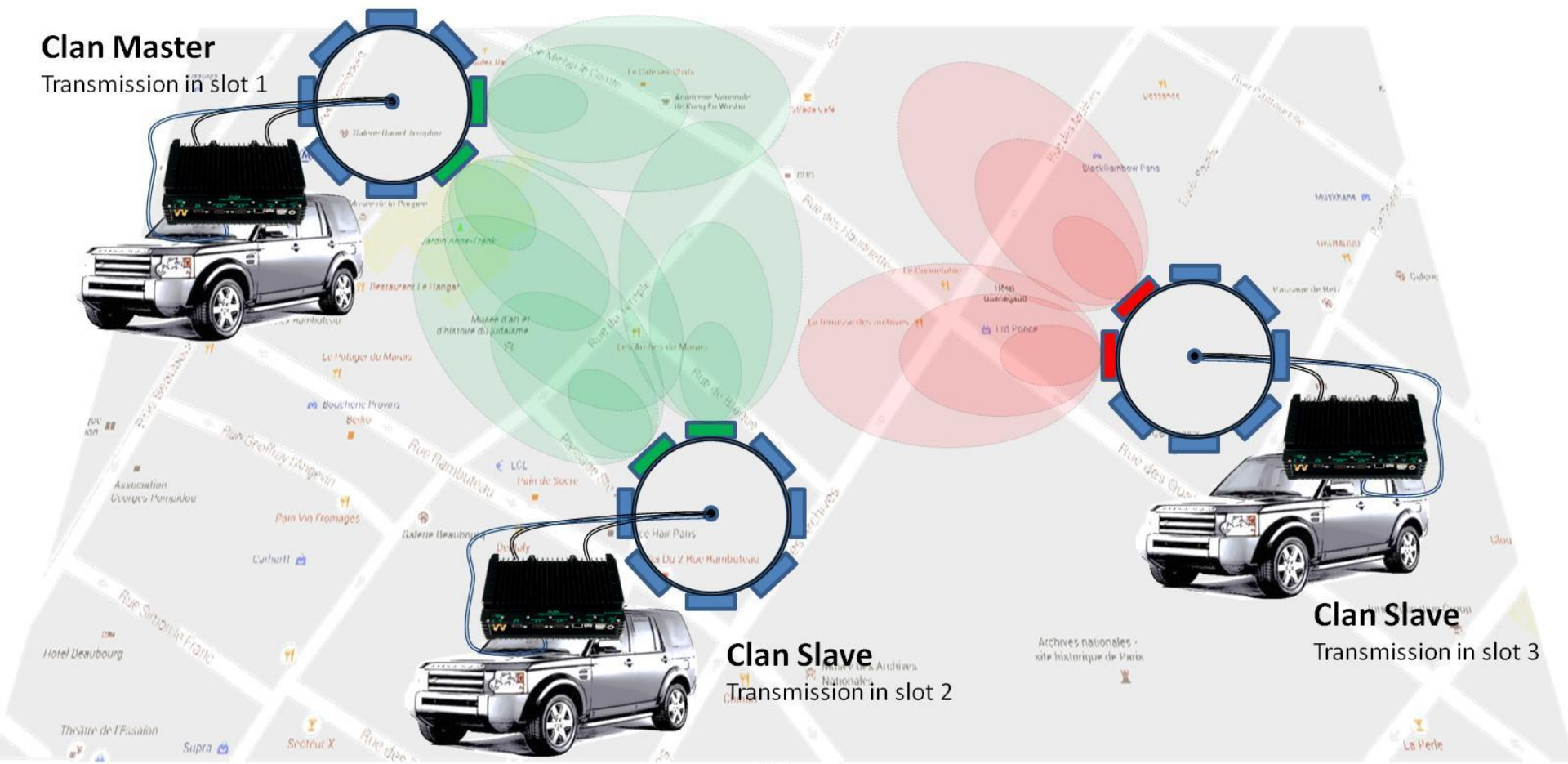


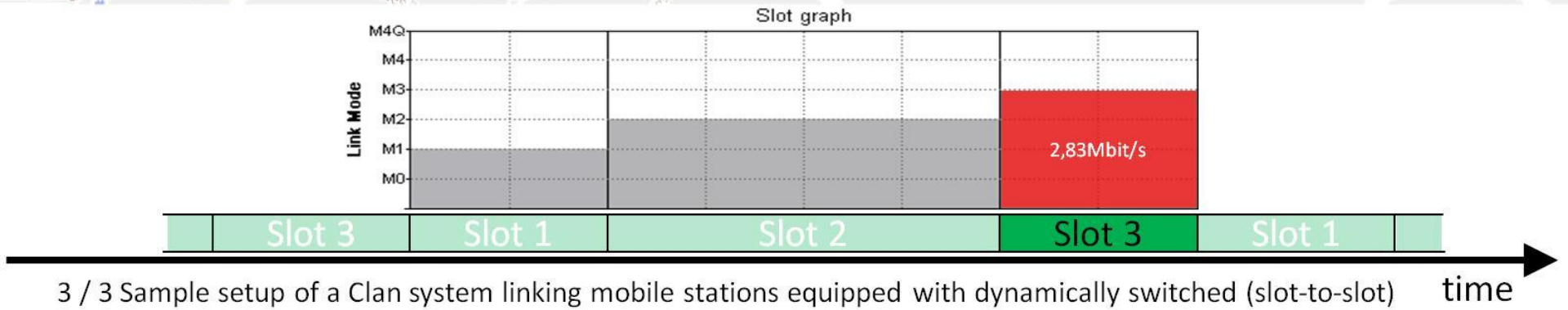
1 / 3 Sample setup of a Clan system linking mobile stations equipped with dynamically switched (slot-to-slot) patch antennas. The Clan devices track each other's position and determine which segments of the antenna system to use for transmission and reception.





2 / 3 Sample setup of a Clan system linking mobile stations equipped with dynamically switched (slot-to-slot) patch antennas. The Clan devices track each other's position and determine which segments of the antenna system to use for transmission and reception.





3 / 3 Sample setup of a Clan system linking mobile stations equipped with dynamically switched (slot-to-slot) patch antennas. The Clan devices track each other's position and determine which segments of the antenna system to use for transmission and reception.