CLAIMS

1.- A radiocommunication infrastructure (10) for a railway signaling system of a « communication-based train control » - CBTC - type, allowing a communication between a ground computer (12) and an onboard computer (14) on-board a train (16) circulating on a track (2), the track (2) being subdivided into sections (4, 5, 6, 7), the radiocommunication infrastructure achieving redundancy of the communication between the ground computer and the onboard computer, by establishing a first communication along a first path and a second communication along a second path, the radiocommunication infrastructure including:

- a communication network (100, 200);
- a first plurality of access points (20) and a second plurality of access points (40), the access points being positioned along the track, the first and the second pluralities of access points being respectively subdivided into first and second groups of access points, each group of access points forming a local communication network, a first group of access points and a second group of access points being associated with each section of the track and being connected to the communication network (100, 200);
- a first modem (22) dedicated to establishing a first wireless link with access points of the first plurality of access points, and a second modem (42) dedicated to establishing a second wireless link with access points of the second plurality of access points, the first and second modems being onboard the train (16);

characterized in that the communication network (100, 200) is of a MPLS type and has a topology forming a ring, the communication network (100, 200) including a plurality of pairs of local switches (122, 132), each pair of local switches being associated with a section of the track and including a first local switch dedicated to the communication with the first group of access points (20) associated with said section and a second local switch dedicated to the communication with the second groups of access points (40) associated with said section; and first and second central switches (112, 114), the local and central switches being connected in series with each other, the ground computer being connected to the first and second central switches,

and in that each switch applies a service (1000, 1400) for defining paths (1100), a service (1100) for detecting a failure, and a service (1200) for reconfiguration, the service for defining paths giving the possibility of predefining communication paths between two switches of each doublet of switches consisting of a central switch (112) and a local switch (122, 132), so that a path between the first central switch and the first local switch of a pair of local switches and the path between the second central switch and the second

local switch of said pair of local switches are carried out along separate portions of the ring formed by the communication network.

2.- The infrastructure according to claim 1, including a plurality of sectors (101, 201), each sector including a communication network (100, 200) aggregating the local networks of a plurality of sections.

3.- The communication infrastructure according to claim 2, wherein said or each central switch (110, 210) of each communication network (100, 200) forms a node of a capped communication network (300) of the MPLS type, also having a ring topology.

4.- The communication infrastructure according to any of the preceding claims, wherein the first and second central switches (112, 212, 114, 214) of a communication network are integrated into an integrated electric switch.

5 The communication infrastructure according to any of the preceding claims, wherein the first local switches and the second local switches of a communication network are placed in alternation within said network.

6.- The communication infrastructure according to any of the preceding claims, including an administration interface.

7.- The communication infrastructure according to any of the preceding claims, applying a priority/segregation service allowing the communication, over said or each communication network, of data of a signaling application and of data of other types of applications.

8.- The communication infrastructure according to any of the preceding claims, wherein each switch applies a service for configuring SDP paths (1400) giving the possibility of configuring tunnel links between two switches of a same network of the communication infrastructure.

9. The communication infrastructure according to claim 8, wherein a value “Spoke SDP” is assigned to each link between one local switch of the plurality of pairs of local switches and one central switch of the first and second central switches of the communication network; and a value “Mesh SDP” is assigned to each tunnel link on a

capped network between a central switch of a sector and a central switch of another sector.