P5: Project integration

Grupo SOS

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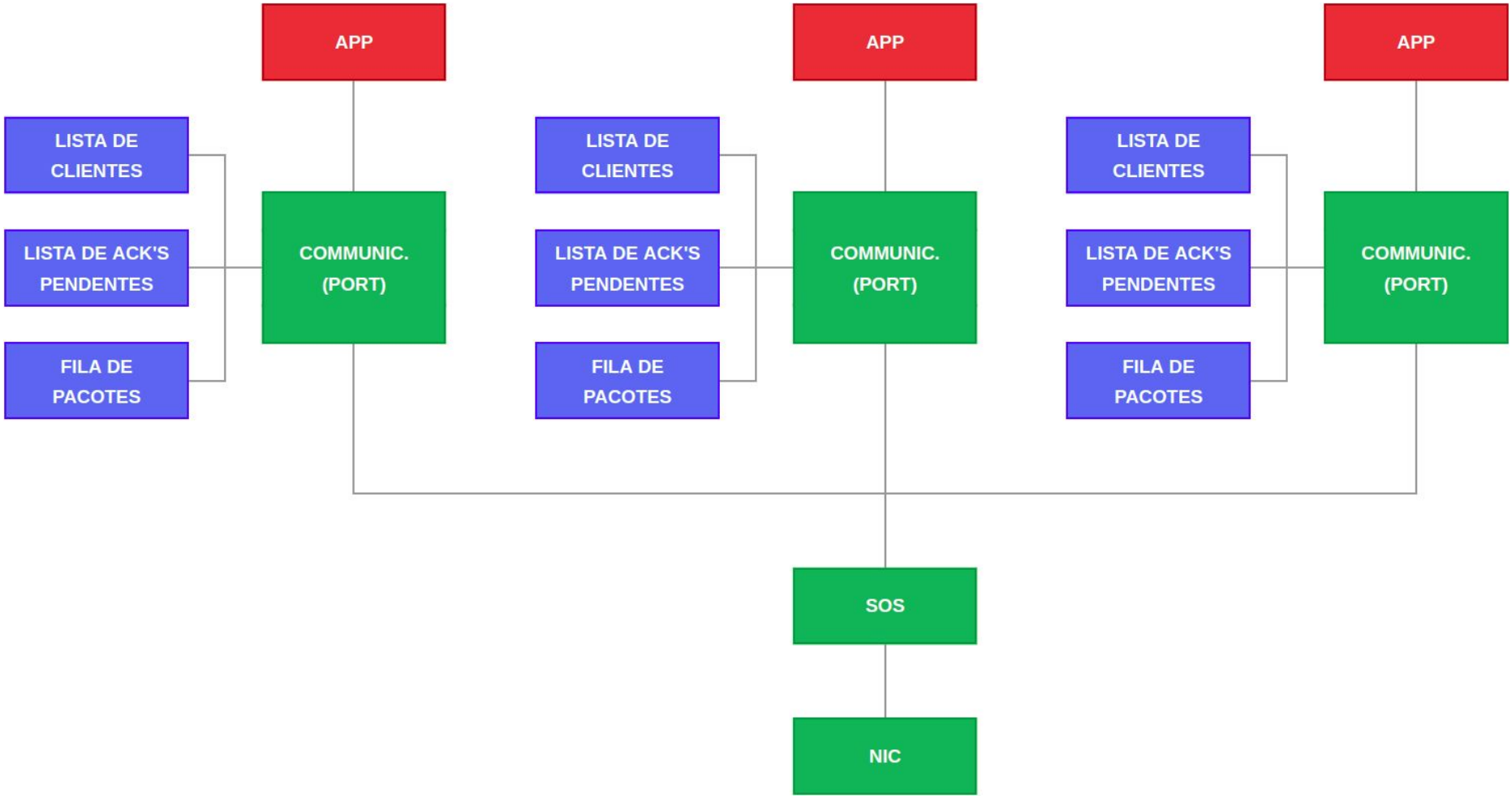
Arquitetura



SOS_Communicator

```
class SOS_Communicator: private SOS::Observer {
public:
    SOS_Communicator(unsigned int port);
    ~SOS_Communicator();

    int send(const char* address, unsigned int port_dest, char data[], unsigned int size);
    int receive(char data[], unsigned int size);

protected:
    SOS* sos;

    Mutex* mutex_send;
    Semaphore* semaphore_send;
    Semaphore* semaphore_receive;

    unsigned int port;
    unsigned int msg_id;

    struct Client {
        NIC_Address address;
        unsigned int id = 0;
    };

    List<Client>* clients;
    List<Packet>* packet_receive;
    List<Packet>* packet_not_ack;

    Client* client(NIC_Address& address);

    void update(Observed * obs, const unsigned int& prot, Buffer * buf);
};
```

SOS

```
    SOS();
    ~SOS();

    static void init(unsigned int unit);

    void send(const NIC_Address& address, Packet* packet);

    void attach(Observer* obs, const unsigned int& port) { _observed->attach(obs, port); }
    void detach(Observer* obs, const unsigned int& port) { _observed->detach(obs, port); }

protected:
    static NIC<Ethernet> * nic;
    Observed *_observed;
    unsigned short protocol = 0x8888;

    static Tick tick1;
    static Tick tick2;
    static Tick tick3;
    static Tick ultimo_elapsed;

    GPS_Driver * gps;
    bool valid_position;
    Point<int, 3> position;

    Ancora anchor1;
    Ancora anchor2;
    Ancora anchor3;
    Point<int, 3> spected_position;

    void update(Ethernet::Observed * obs, const Ethernet::Protocol & prot, Ethernet::Buffer * buf);

private:
    bool notify(const unsigned int& port, Buffer *buf) { return _observed->notify(port, buf); }

};
```

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