



MODELLALAPÚ SZOFTVERFEJLESZTÉS

1. GYAKORLAT SZÖVEGES DSL-EK AZ IPARBAN

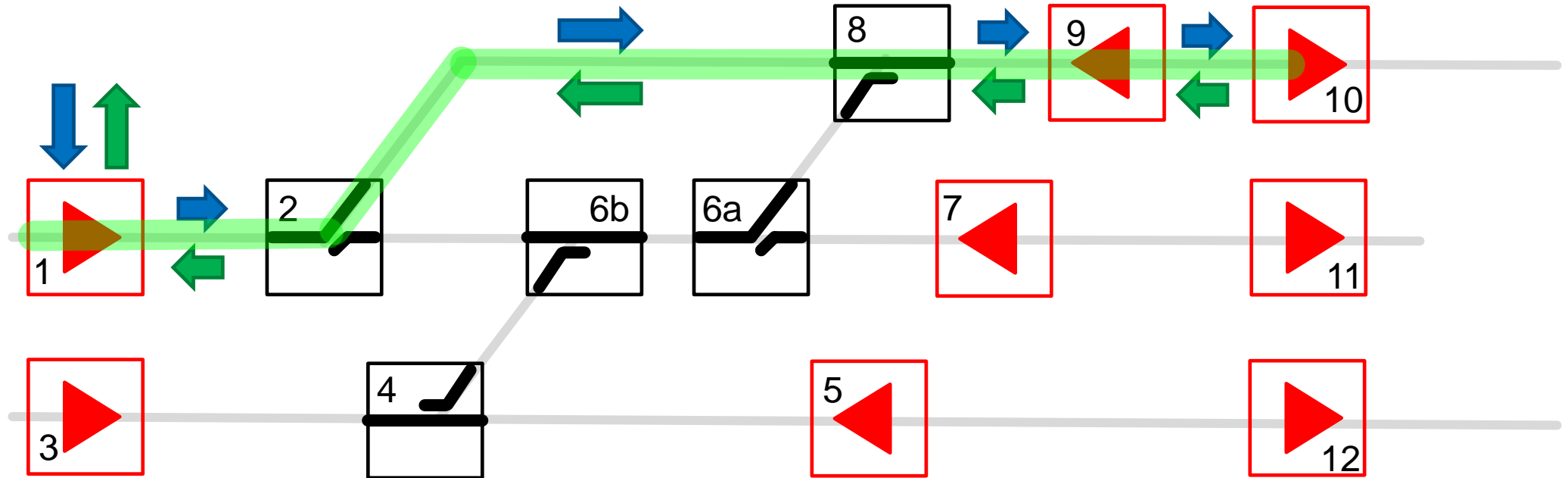
DR. SIMON BALÁZS



VASÚTI BIZTOSÍTÓBERENDEZÉS



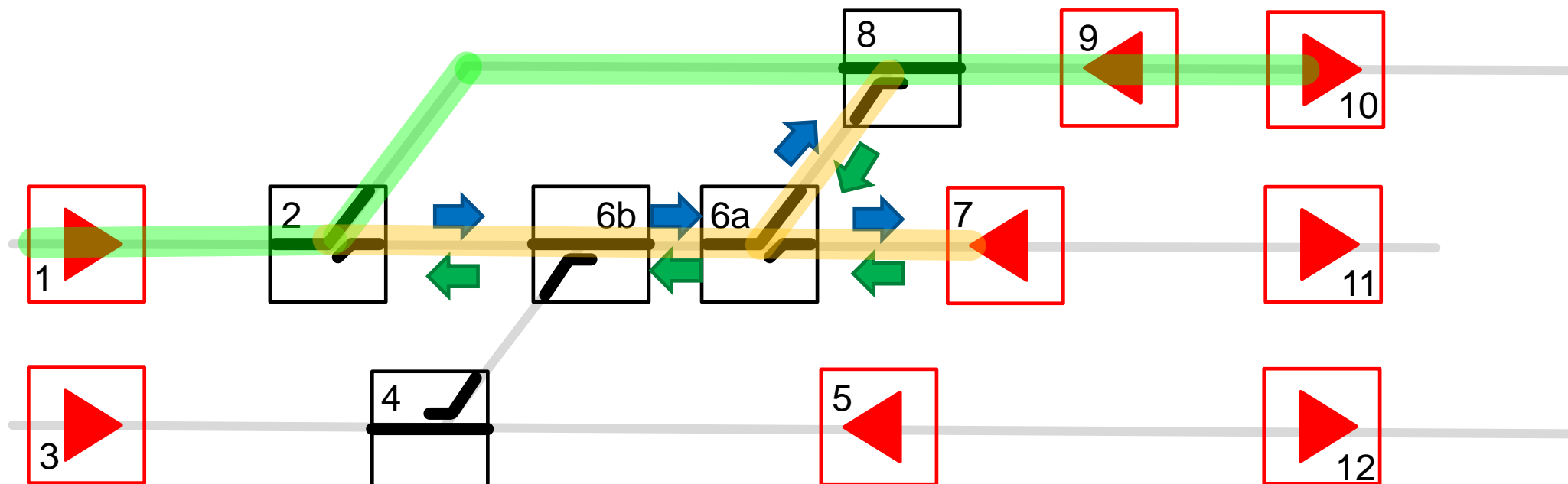
PULSE QUERY MŰKÖDÉSE



A végén vehetjük úgy, hogy „eltűnnek” az üzenetek, nincs rájuk szükség többé.

Jelmagyarázat: REQ ACCEPT REFUSE

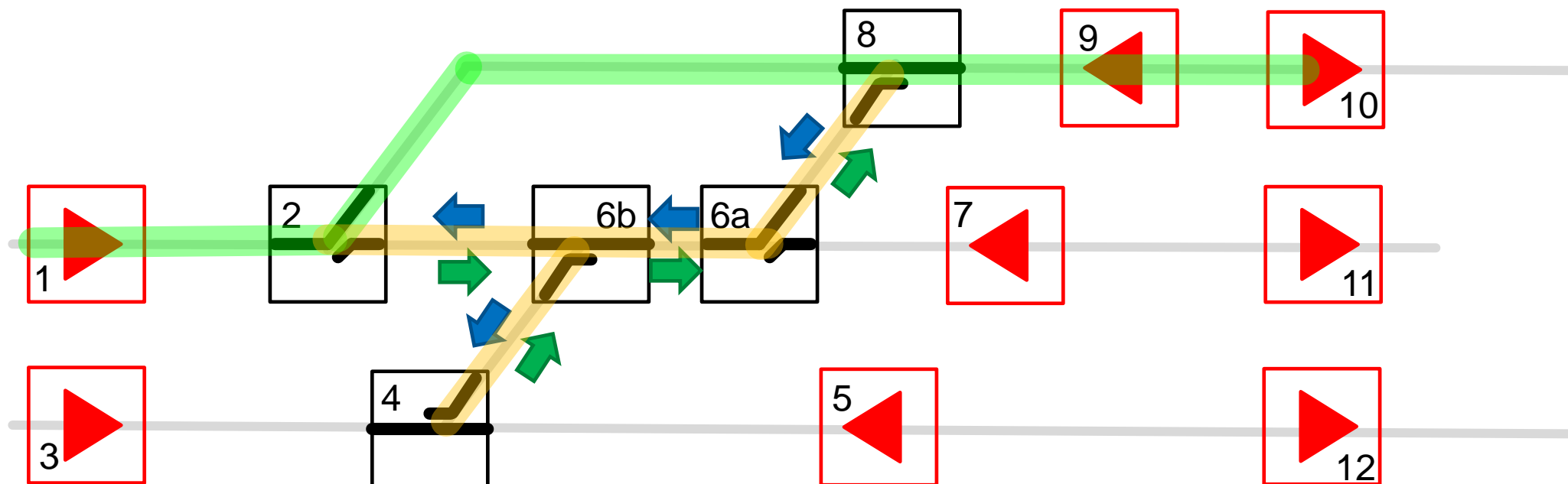
STATIC QUERY MŰKÖDÉSE (V2)



Trigger hatására indul el: ha v2 lezárt állapotba került

Jelmagyarázat: → REQ → ACCEPT → REFUSE

STATIC QUERY MŰKÖDÉSE (V8)

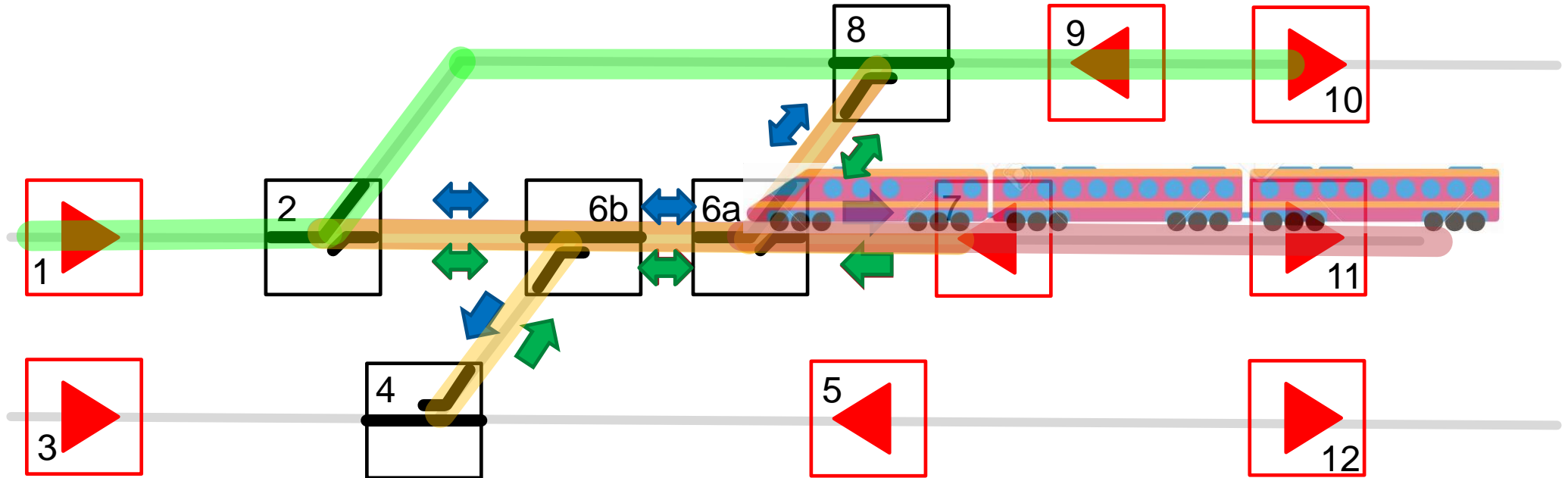


Trigger hatására indul el: ha v8 lezárt állapotba került

Jelmagyarázat:

REQ	ACCEPT	REFUSE

STATIC QUERY MŰKÖDÉSE (V2+V8)



A végén vehetjük úgy, hogy megmaradnak az üzenetek, mert változhatnak az eredmények...

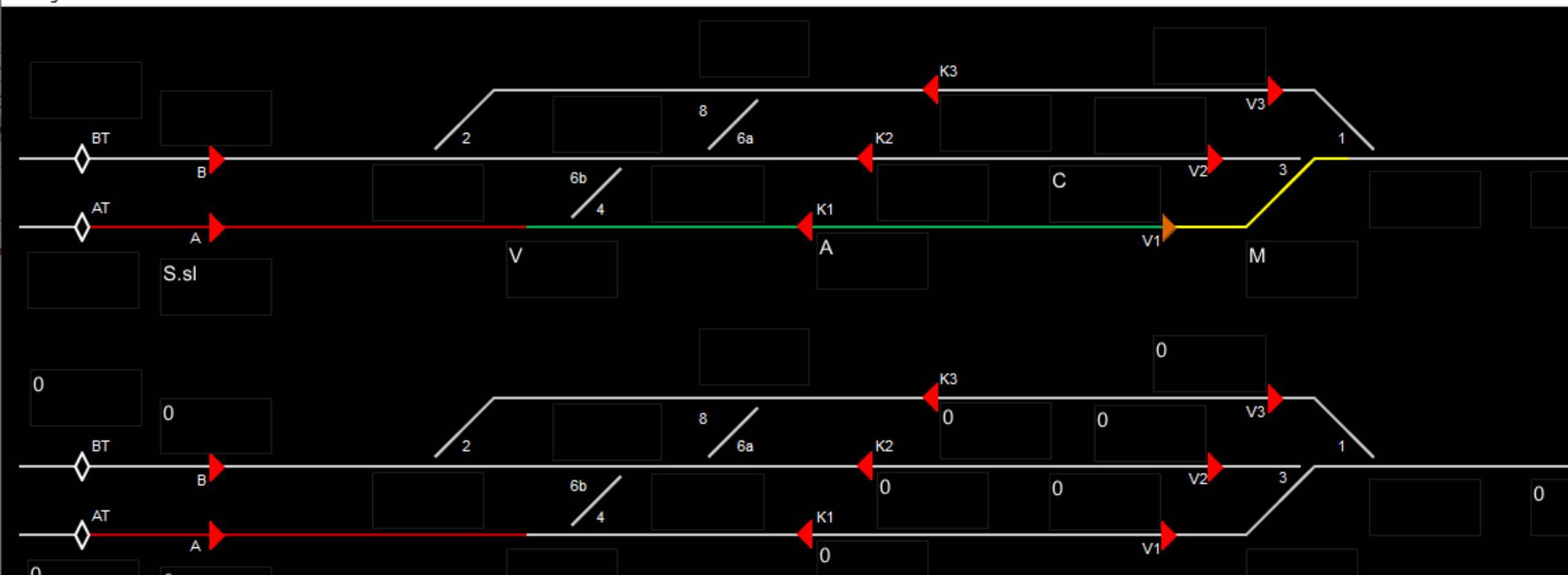
Jelmagyarázat:

REQ	ACCEPT	REFUSE

```
        BA_T_lez:= TRUE;
        BA_T_VU_tip:= VU_tip;
    ESWITCH
    ON_ACCEPT_TO C: // Hattal érintett jelzo
        BA_A_lez:= TRUE;
        BA_A_VU_tip:= VU_tip;
EOBJECT Jelzo;
OBJECT Valto:
    INPUT E: // Valto elejere érkezett keres
    SWITCH BA_vezer:
    CASE V_vezer.t.:
        REQ J IF AI_fogl =
        CASE V_vezer.t.b
        REQ B IF AI_fogl =
    ESWITCH
    INPUT J: // Jobb szar
        REQ E IF AI_fogl =
    INPUT B: // Bal szar
        REQ E IF AI_fogl =
    ON_ACCEPT_FROM E: //
        BA_VU_lez:= V_VU_l
    ON_ACCEPT_FROM J, B:
        BA_VU_lez:= V_VU_l
EOBJECT Valto;
EQUERY F_VU_lez;
```

.
bal
jobb

EnumLiteral bal



```

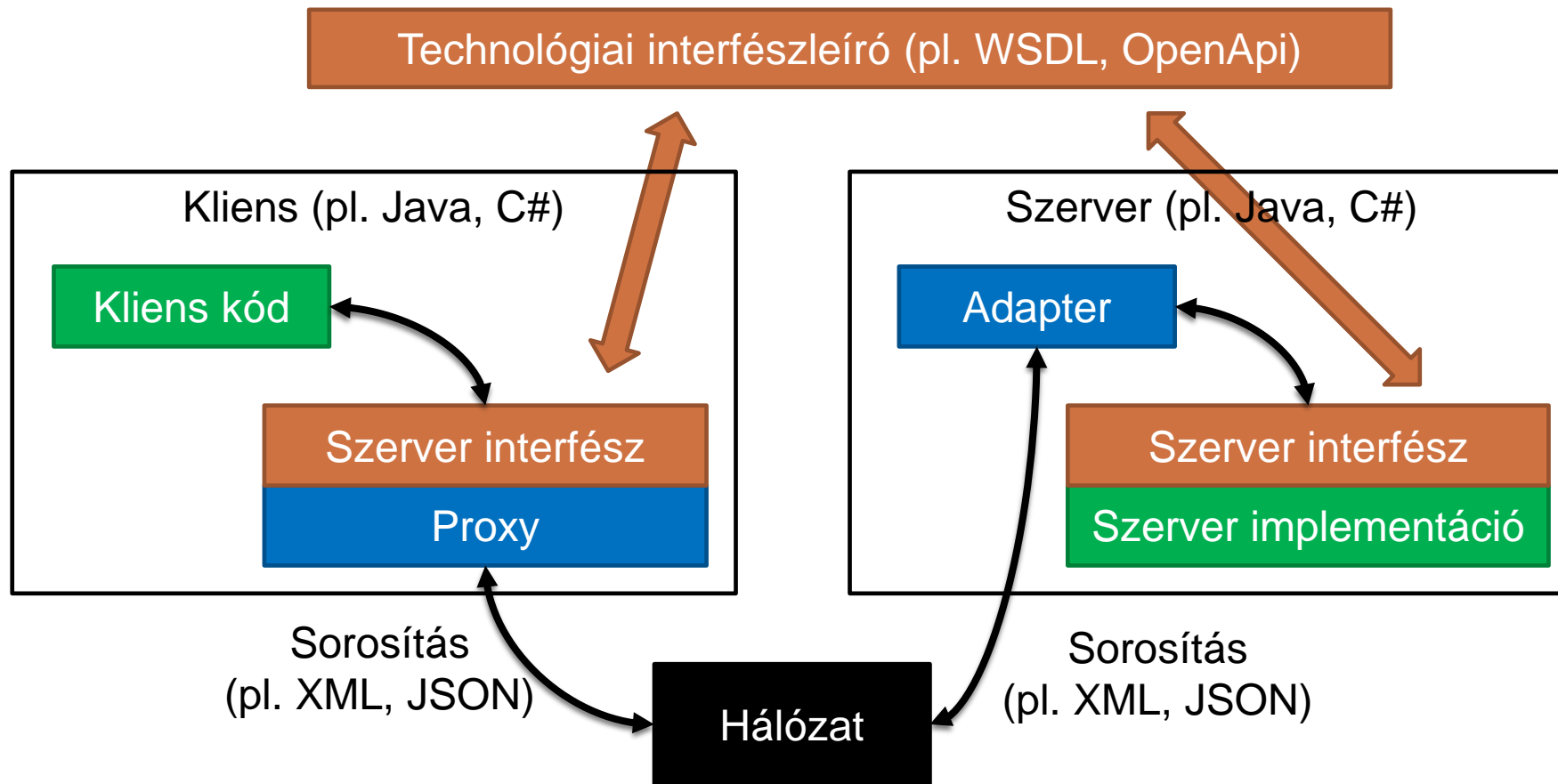
2022.05.27 13:42:45.344 - A_JA._update - updateAIS05E120
2022.05.27 13:42:45.380 - JA.S - QUERY_S_VU_FL_Refuse (origin: V4) "Assertion failed: AI_fogl == fogl_t.foglalt"
2022.05.27 13:42:45.456 - A_JV1.A - COMMAND_megallj_Request (origin: JV1)
2022.05.27 13:42:45.471 - JA.A - EVENT_J_status_info_Request (origin: A_JA)
2022.05.27 13:42:45.495 - V4.J - QUERY_S_VU_LE_Refuse (origin: JK1) "Incoming request is in REFUSED state."
2022.05.27 13:42:45.564 - JV1.C - QUERY_S_VU_LE_Request (origin: JA)
2022.05.27 13:42:45.630 - emu (null.F) - EVENT_J_status_info_Request (origin: A_JA)
2022.05.27 13:42:45.649 - A_JAT.K - COMMAND_A_C_foglalt_Request (origin: EMU)
2022.05.27 13:42:45.665 - A_JA.K - COMMAND_A_C_foglalt_Request (origin: EMU)
    
```




EGYSÉGES INTERFÉSZLEÍRÓ NYELV (EIL)



ELOSZTOTT KOMMUNIKÁCIÓ



TECHNOLÓGIAI INTERFÉSZLEÍRŐK: ILLUSZTRÁCIÓ

C#:

interface IHello

{

string SayHello(string name);

}

WSDL:

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema targetNamespace="http://tempuri.org/TODO/HelloWorld"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:tns="http://tempuri.org/TODO/HelloWorld"
  elementFormDefault="qualified">

  <xs:element name="SayHello" type="tns:SayHello"/>
  <xs:complexType name="SayHello">
    <xs:sequence>
      <xs:element name="name" type="xs:string" nillable="false"/>
    </xs:sequence>
  </xs:complexType>

  <xs:element name="SayHelloResponse" type="tns:SayHelloResponse"/>
  <xs:complexType name="SayHelloResponse">
    <xs:sequence>
      <xs:element name="SayHelloResult" type="xs:string" nillable="false"/>
    </xs:sequence>
  </xs:complexType>
</xs:schema>

<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions targetNamespace="http://tempuri.org/TODO/HelloWorld"
  xmlns:tns="http://tempuri.org/TODO/HelloWorld"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
  xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
  xmlns:wsa="http://www.w3.org/2006/05/addressing/wsdl">
  <wsdl:types>
    <xs:schema>
      <xs:import namespace="http://tempuri.org/TODO/HelloWorld" schemaLocation="HelloWorld.xsd"/>
    </xs:schema>
  </wsdl:types>

  <wsdl:message name="IHello_SayHello_InputMessage">
    <wsdl:part name="parameters" type="tns:SayHello"/>
  </wsdl:message>
  <wsdl:message name="IHello_SayHello_OutputMessage">
    <wsdl:part name="parameters" type="tns:SayHelloResponse"/>
  </wsdl:message>

  <wsdl:portType name="IHello">
    <wsdl:operation name="SayHello">
      <wsdl:input wsam:action="http://tempuri.org/TODO/HelloWorld/IHello/SayHello" message="tns:IHello_SayHello_InputMessage"/>
      <wsdl:output wsam:action="http://tempuri.org/TODO/HelloWorld/IHello/SayHelloResponse" message="tns:IHello_SayHello_OutputMessage"/>
    </wsdl:operation>
  </wsdl:portType>

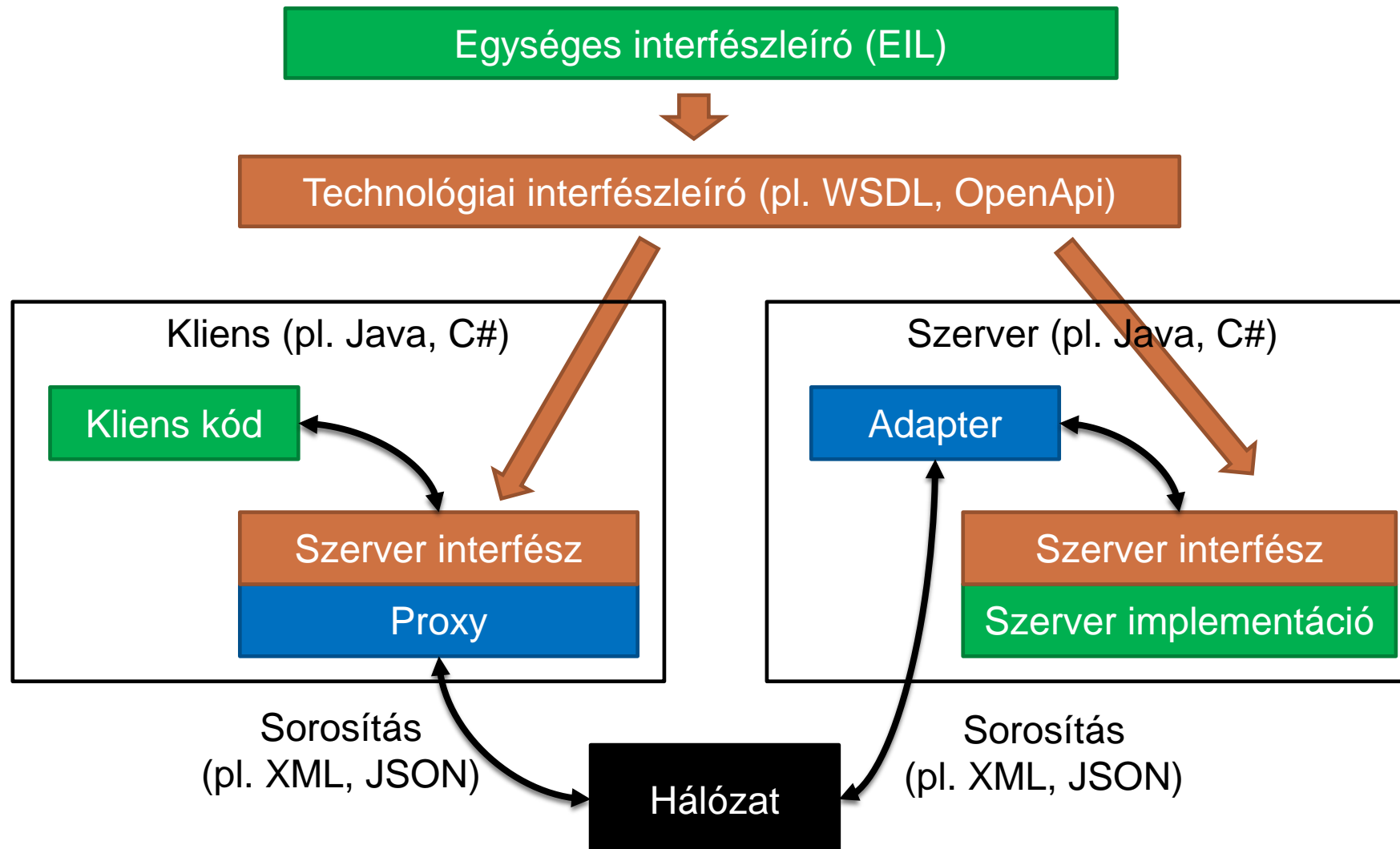
  <wsdl:binding name="IHello_Binding" type="tns:IHello">
    <soap12:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="SayHello">
      <soap12:operation style="document" soapAction="http://tempuri.org/TODO/HelloWorld/IHello/SayHello"/>
      <wsdl:input>
        <soap12:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap12:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>

  <wsdl:service name="Hello">
    <wsdl:port name="IHello_Port" binding="tns:IHello_Binding">
      <soap12:address location="http://tempuri.org"/>
    </wsdl:port>
  </wsdl:service>
</wsdl:definitions>
```

OpenAPI:

```
openapi: '3.1.0'
servers:
  - url: https://tempuri.org
    description: A szolgáltatás végpontja.
info:
  description: TODO
  version: "1.0.0"
  title: TODO
  contact:
    email: you@your-company.com
  license:
    name: Apache 2.0
    url: 'http://www.apache.org/licenses/LICENSE-2.0.html'
tags:
  - name: 'Hello'
    description: TODO
  - name: 'Hello/SayHello'
    description: TODO
paths:
  '/Hello/SayHello':
    post:
      operationId: 'Hello/SayHello'
      summary: TODO
      description: TODO
      tags:
        - 'Hello'
        - 'Hello/SayHello'
      requestBody:
        content:
          'application/json':
            schema:
              type: object
              required:
                - name
              properties:
                name:
                  type: string
      responses:
        '200':
          description: OK
          content:
            'application/json':
              schema:
                type: object
                required:
                  - result
                properties:
                  result:
                    type: string
        '404':
          description: "Not found"
        '400':
          description: "Client error"
        '500':
          description: "Server error"
```

EGYSÉGES INTERFÉSZLEÍRÓ (EIL)



EIL PÉLDA

```
description HelloWorld;
```

```
enum DayPart { Morning, Afternoon, Evening }
```

```
/// @summary  
///   Interface for a service to say hello  
interface IHello  
{  
    /// @summary  
    ///   A hello world operation  
    /// @param name  
    ///   name of the person  
    /// @param when  
    ///   part of the day  
    /// @returns  
    ///   the greeting  
    string SayHello(string name, DayPart when);  
}
```

```
/// @summary  
///   A service to say hello  
service Hello : IHello  
{  
    binding REST;  
}
```



DEMÓ...





KÖSZÖNÖM A FIGYELMET!