



## Bringing ECOFEN to OMNeT++

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# ECOFEN

Module for the NS-3 network simulator

- Energy Model: measure the energy consumption
  - Nodes
  - Interfaces
- Green functions: reduce the energy consumption
  - Node
    - ON/OFF
  - Interfaces
    - ON/OFF
    - Adaptive Link Rate (ALR)
    - Energy Efficient Ethernet (802.3az)

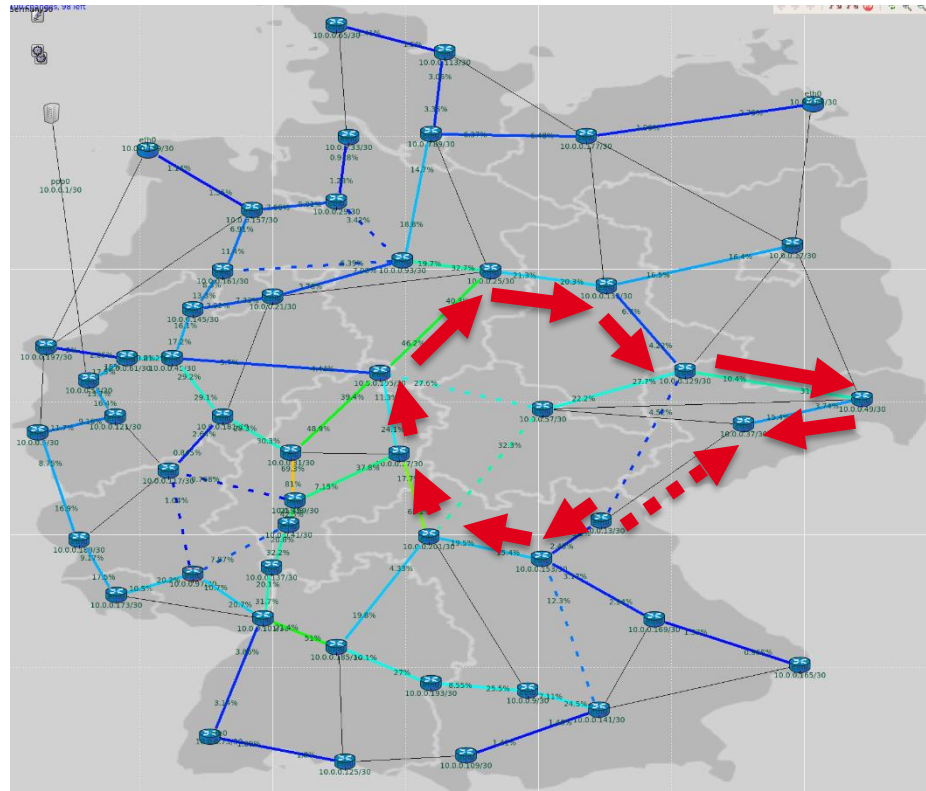
\*<http://people.irisa.fr/Anne-Cecile.Orgerie/ECOFEN/index.html>



# Power Saving in Wired Networks

Actual work:

- Sleep modes and Power Aware Routing
- Reroute and turn off/on



To be done:

- Adaptive Link Rate
- Energy Efficient Ethernet



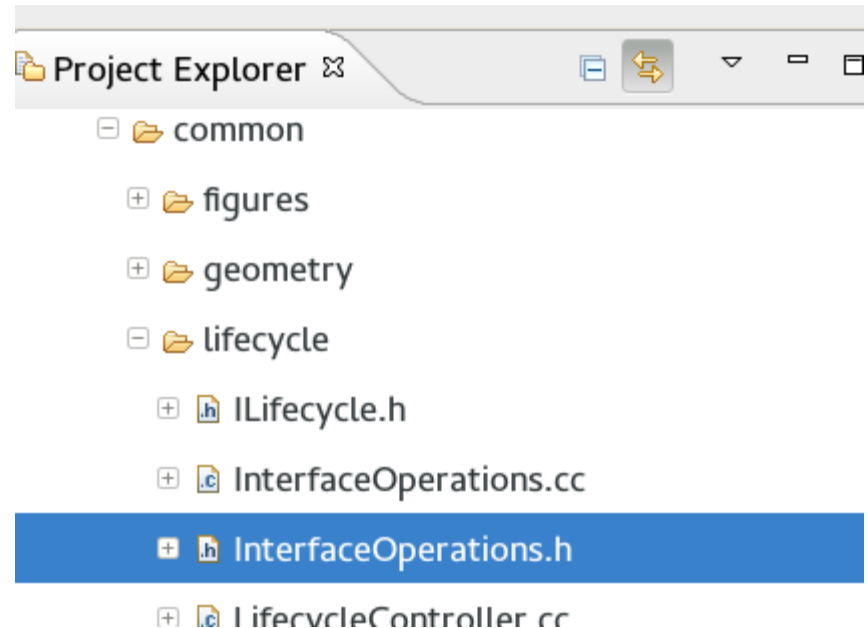
# ECOFEN in OMNeT++/INET?

Model the power consumption

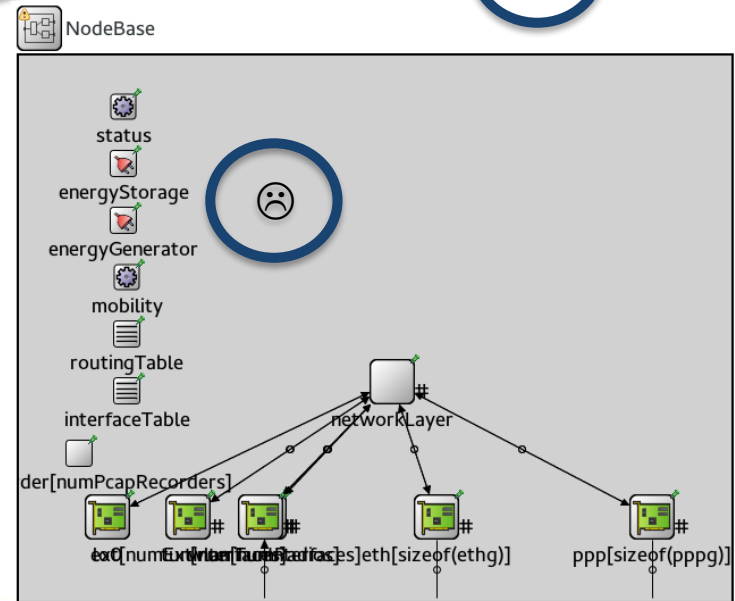
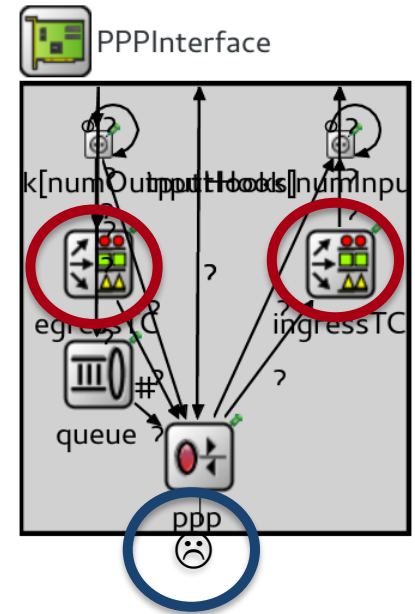
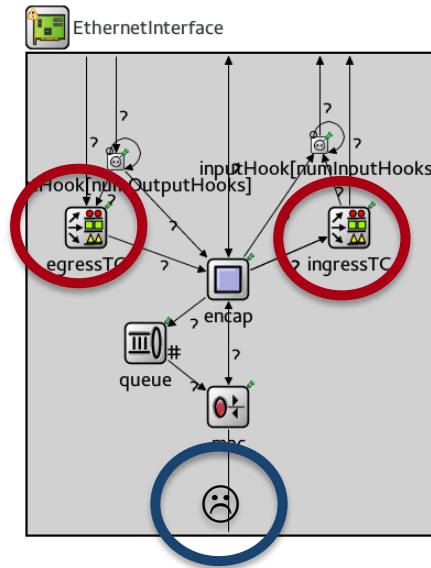
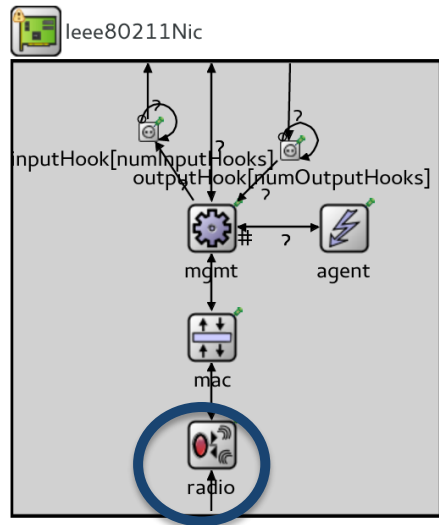
☺ new power model in INET 3.0

Switch OFF/ON

☺ lifecycle controller



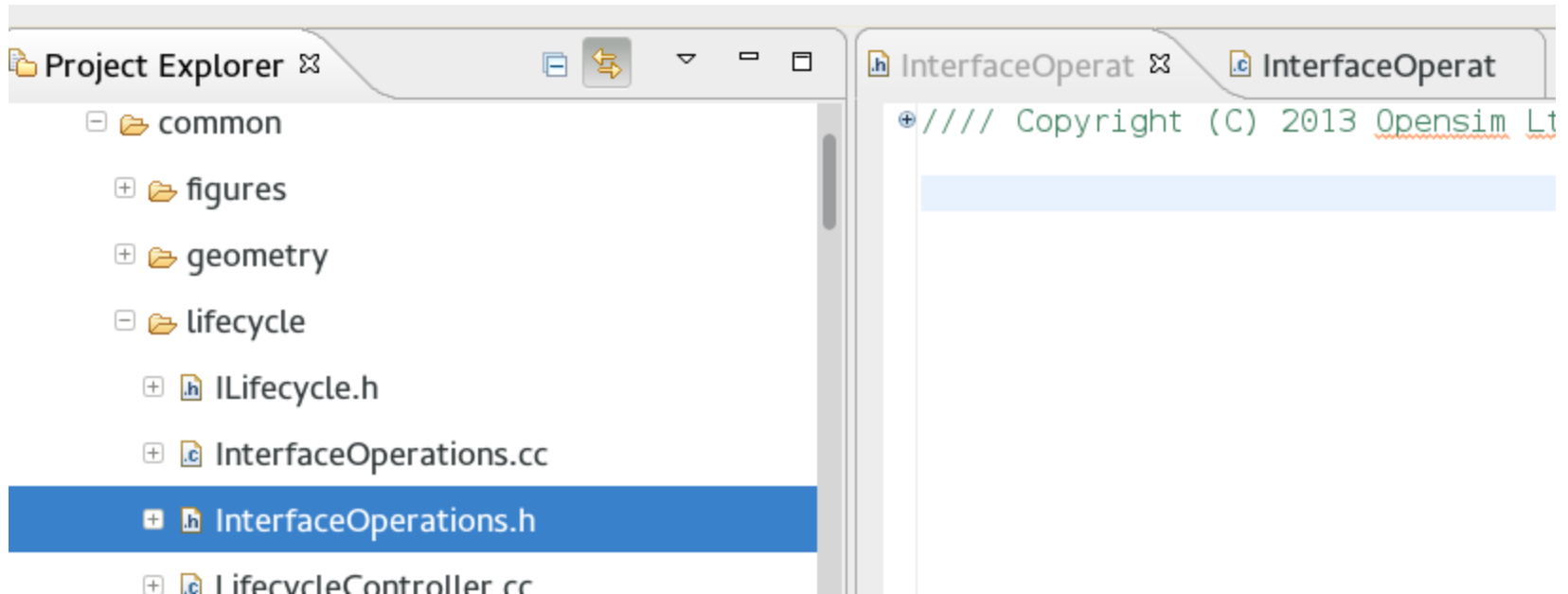
# Model the power consumption



# Switch OFF/ON

```
bool BGPRouting::handleOperationStage(LifecycleOperation *operation, int  
{  
    throw cRuntimeError("Lifecycle operation support not implemented");  
}
```

```
bool IPv6::handleOperati  
{  
    throw cRuntimeError(  
}
```



# ECOFEN in OMNeT++?

Is the community interested?

Changes must be applied all over INET

Lots of unimplemented features (lifecycle controller)

Can be confusing for a new user

# Thank you

*inria*  
informatiques mathématiques

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