an open source HDL IDE

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The team

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¿Qué es TerosHDL?

- Editor para VHDL, Verilog y SV

- Interfaz gráfica para herrramientas de FPGA/ASIC

- Ayuda a la edición de código

- Extensión para VSCode y VSCodium

Qué NO es TerosHDL

- Un “compilador” de FPGAs

- Un simulador

¿Porqué VSCode/VSCodium?

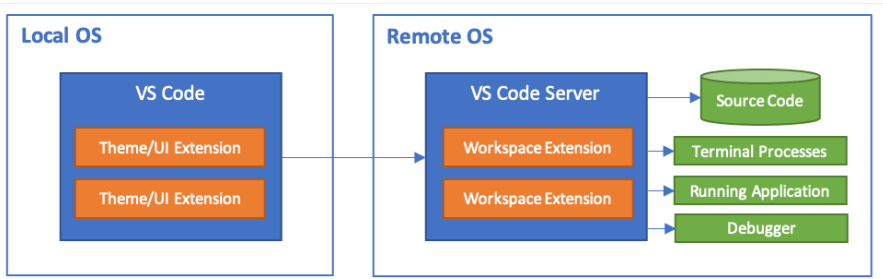
- Extensiones: C/C++, Python, TCL, Matlab, VHDL, Verilog/SV...

- Live development

- Integración con Git

- Github, Jenkins, Gitlab...

- Buena API: Typescript
- Desarrollo remoto
- Integración con: Docker, Azure, Kubernetes...



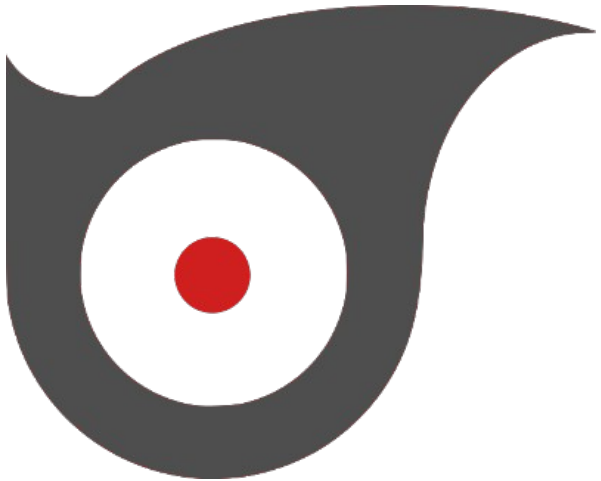
¿Por qué TerosHDL?

“Software” features for HW designers

- Linter: ModelSim, Vivado, Icarus, GHDL, verilator…
- Formatter
- Snippets
- Intelligent templates

- Tool manager (+15): Quartus, Vivado, GHDL, Icarus, QuestaSim, Xsim...

- State machine viewer
- Automatic documentation



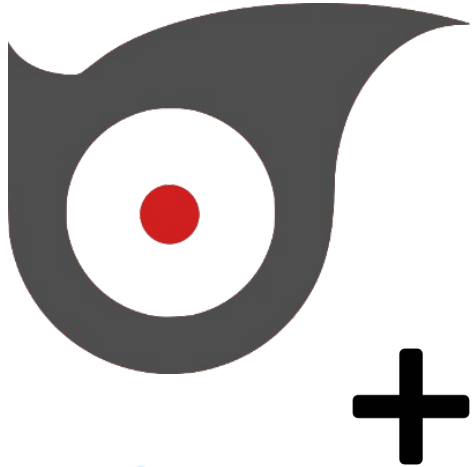
Linux, Windows, Mac

Why TerosHDL?

Entorno de desarrollo FPGA/ASIC :

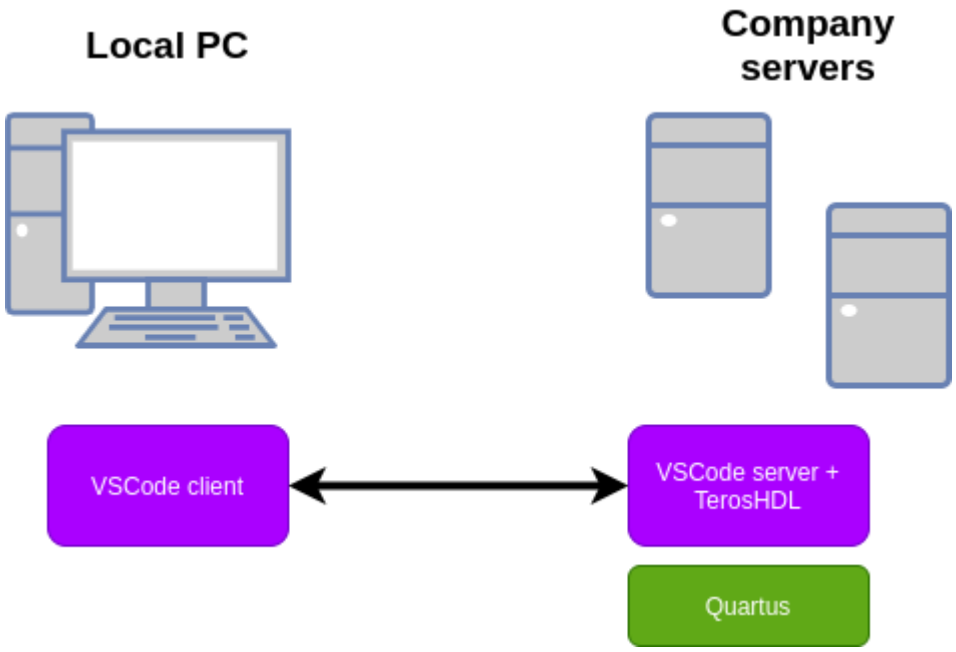
- VHDL, SV/Verilog, TCL editor
- Tool manager

- C++, Python, Matlab editor
- Desarrollo remoto
- Integración con Git



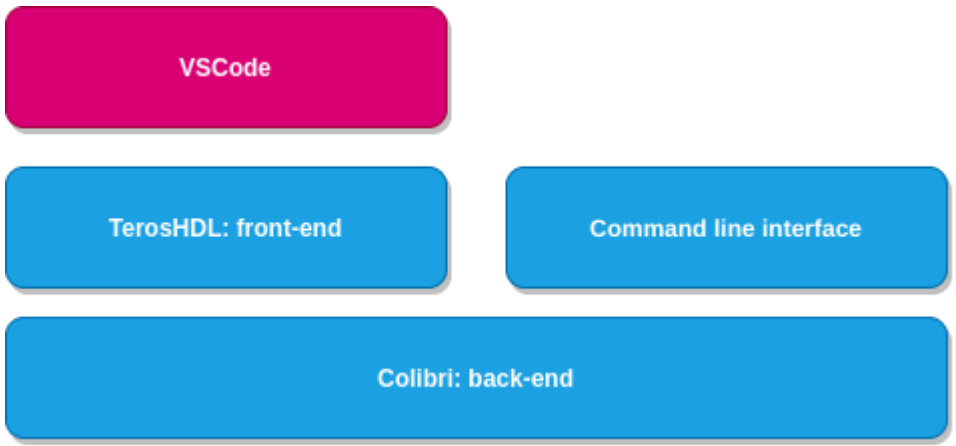
Visual Studio Code

Why TerosHDL?



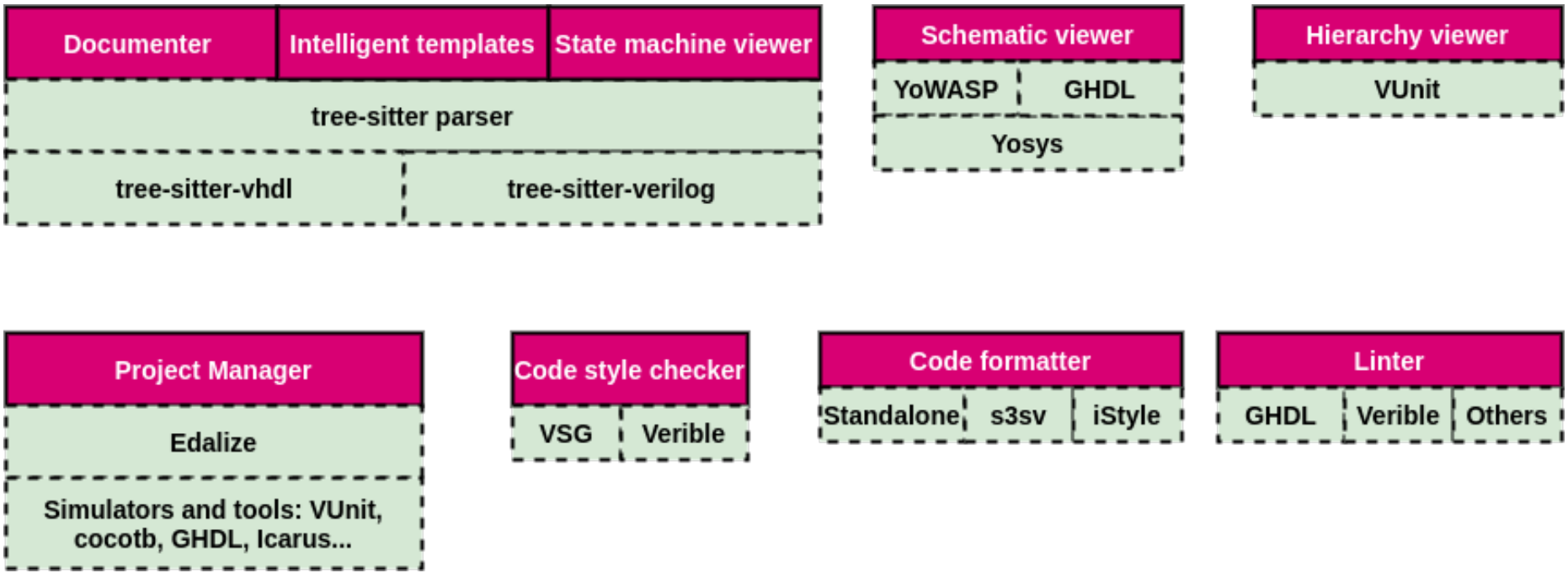
- Easy setup: 40 seconds
- Low latency
- SSH connection

Arquitectura I



Arquitectura II: colibri

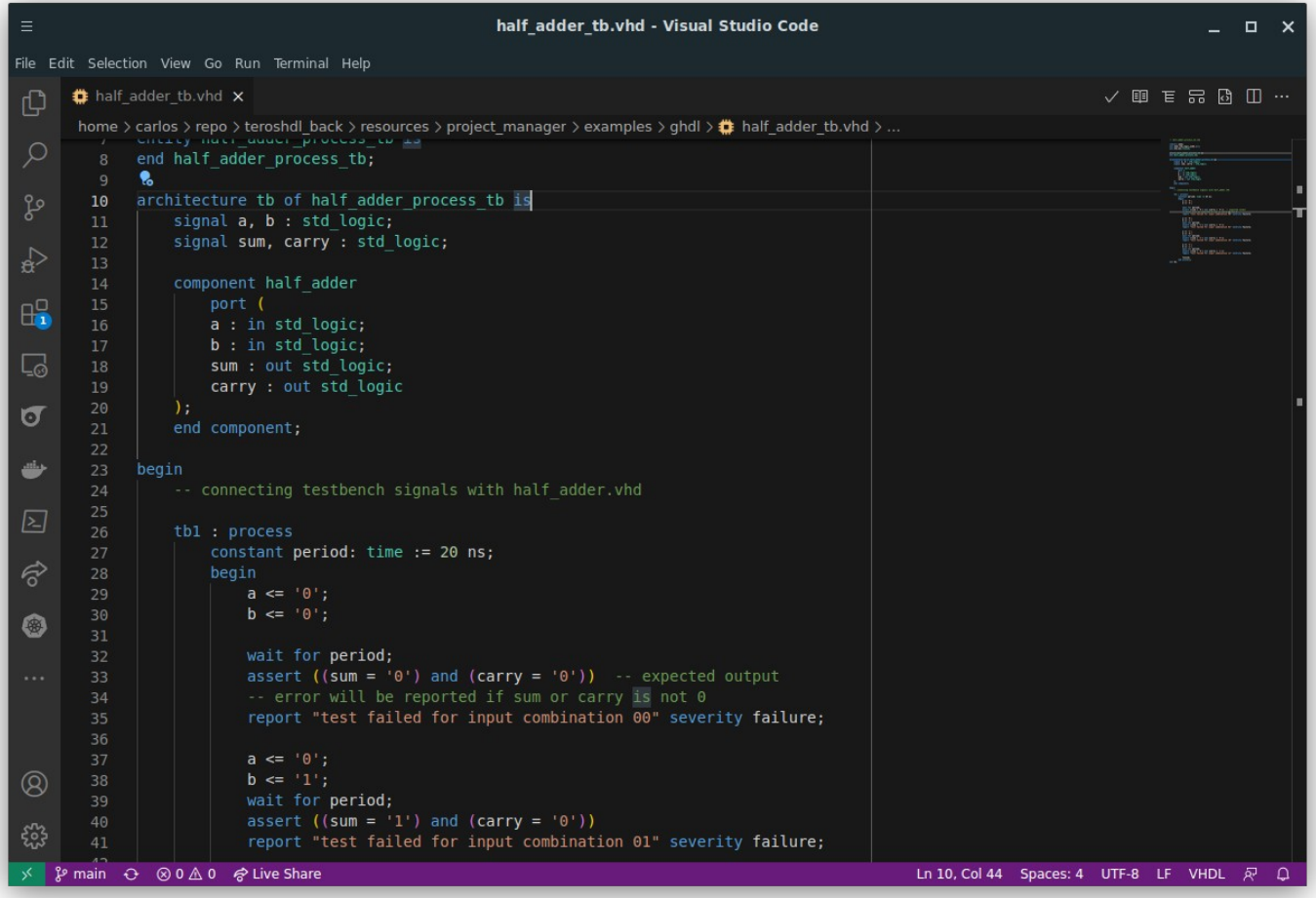
TerosHDL



Funciones: editor

TerosHDL

- Resaltado de sintaxis
- Go to definition
- Hover
- Autocompletado
- Renombrado de variables



Linter

TerosHDL

- Detector de errores

- Soporte para tools open Source: GHDL, Icarus...

```
32  always #clk_half_period clk <= !clk;
33  vlog_tb_utils = 0
34
35  Unknown module type TerosHDL: icarus
36  View Problem (Alt+F8)   No quick fixes available
37  vlog_tb_utils vtu();
38
39  blinky #(.clk_freq_hz (clk_freq_hz))
40  dut
41    (.clk (clk),
42     .q   (led));
43
44  integer i;
45  time last_edge = 0;
```

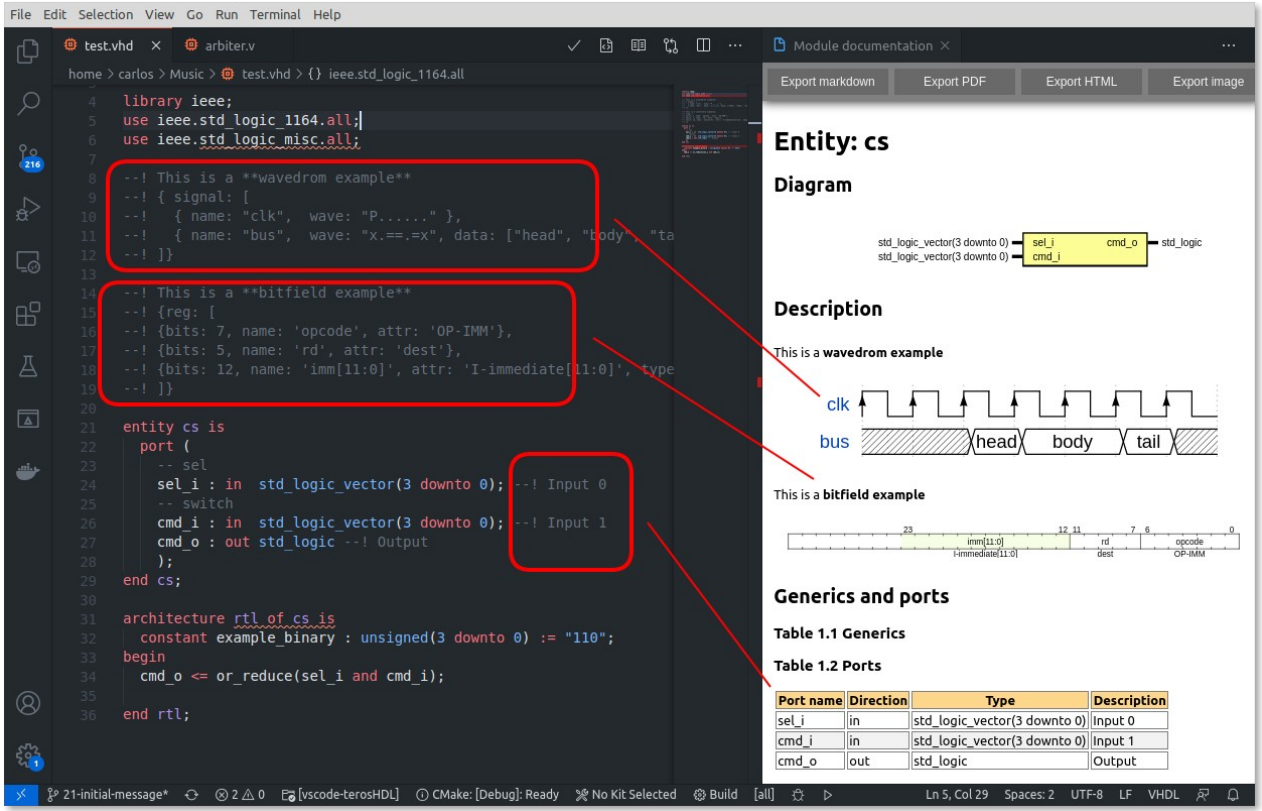
```
PROBLEMS 29   OUTPUT   TERMINAL   DEBUG CONSOLE
blinky_tb.v ~/.vscode-server/extensions/teros-technology.teroshdl-3.4.1/resources/project_manager/examples/icarus 2
  Unknown module type TerosHDL: icarus [Ln 37, Col 4]
  Unknown module type TerosHDL: icarus [Ln 40, Col 4]
blinky.v ~/.vscode-server/extensions/teros-technology.teroshdl-3.4.1/resources/project_manager/examples/icarus 1
  syntax error TerosHDL: icarus [Ln 35, Col 7]
```

Documentador

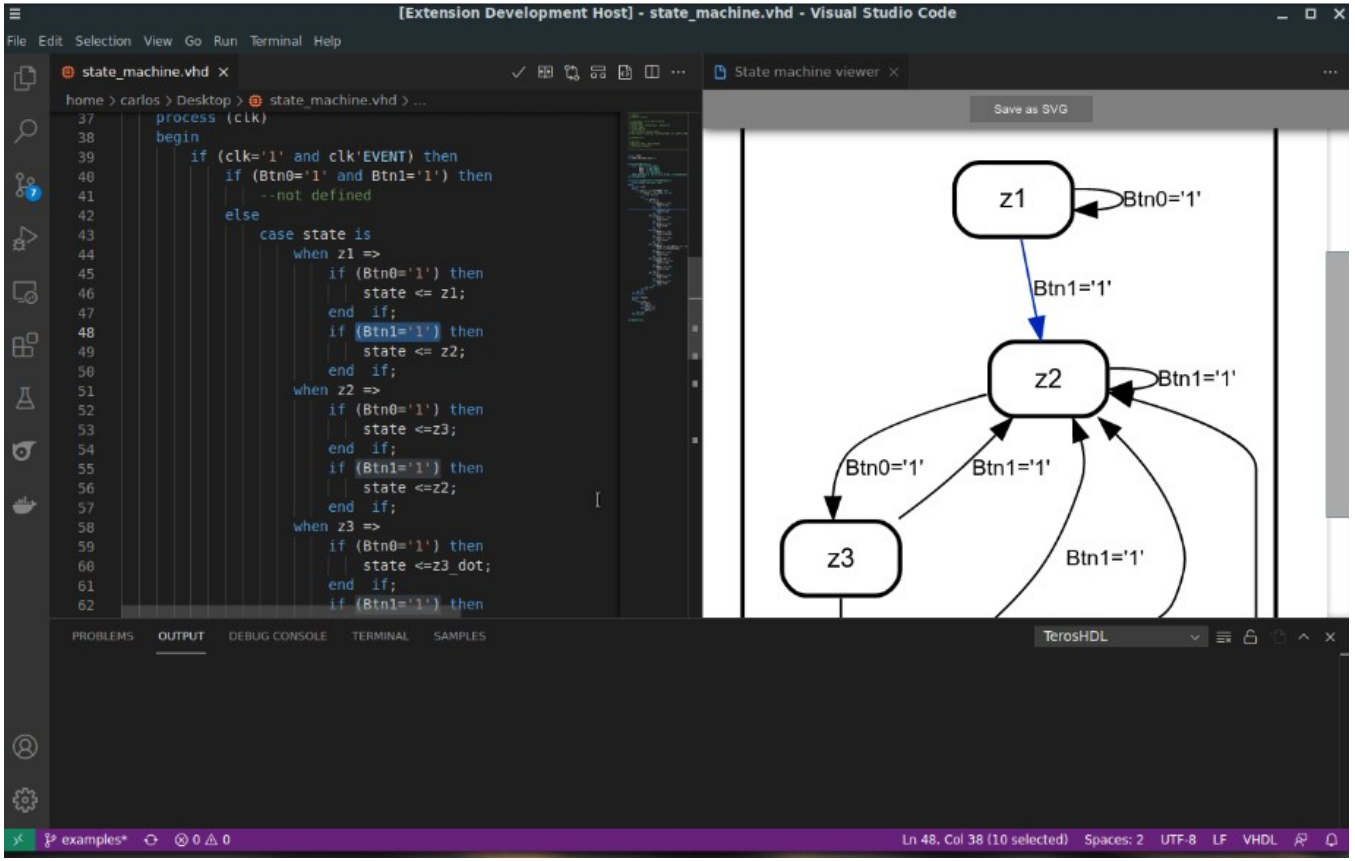
TerosHDL

- Documentación automática Desde comentarios en el código

- Soporte para MarkDown



Detector de máquinas de estado TerosHDL



Tool manager

TerosHDL