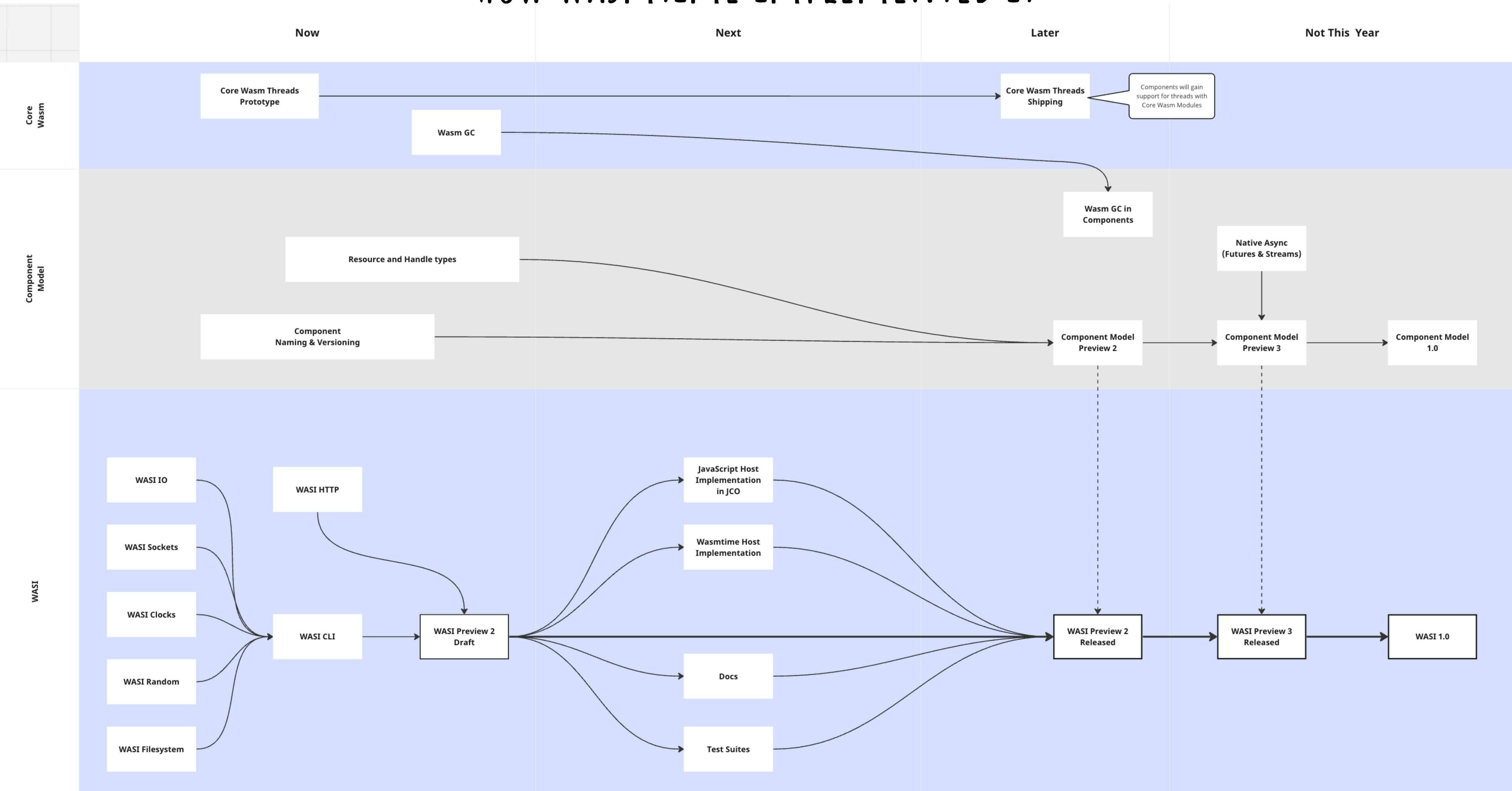
WASI Preview 2

- We talked about WASI and Preview 1
- Preview 2!
- WASI allows nested virtualization
- Towards a WASI 1.0

How Wasmtime implemented it



Now

Next

Later

Not This Year

Core Wasm

Component Model

WASI

Core Wasm Threads Prototype

Wasm GC

Core Wasm Threads Shipping

Components will gain support for threads with Core Wasm Modules

Wasm GC in Components

Resource and Handle types

Component Naming & Versioning

Native Async (Futures & Streams)

Component Model Preview 2

Component Model Preview 3

Component Model 1.0

WASI IO

WASI Sockets

WASI Clocks

WASI Random

WASI Filesystem

WASI HTTP

WASI CLI

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Wasmtime Host Implementation

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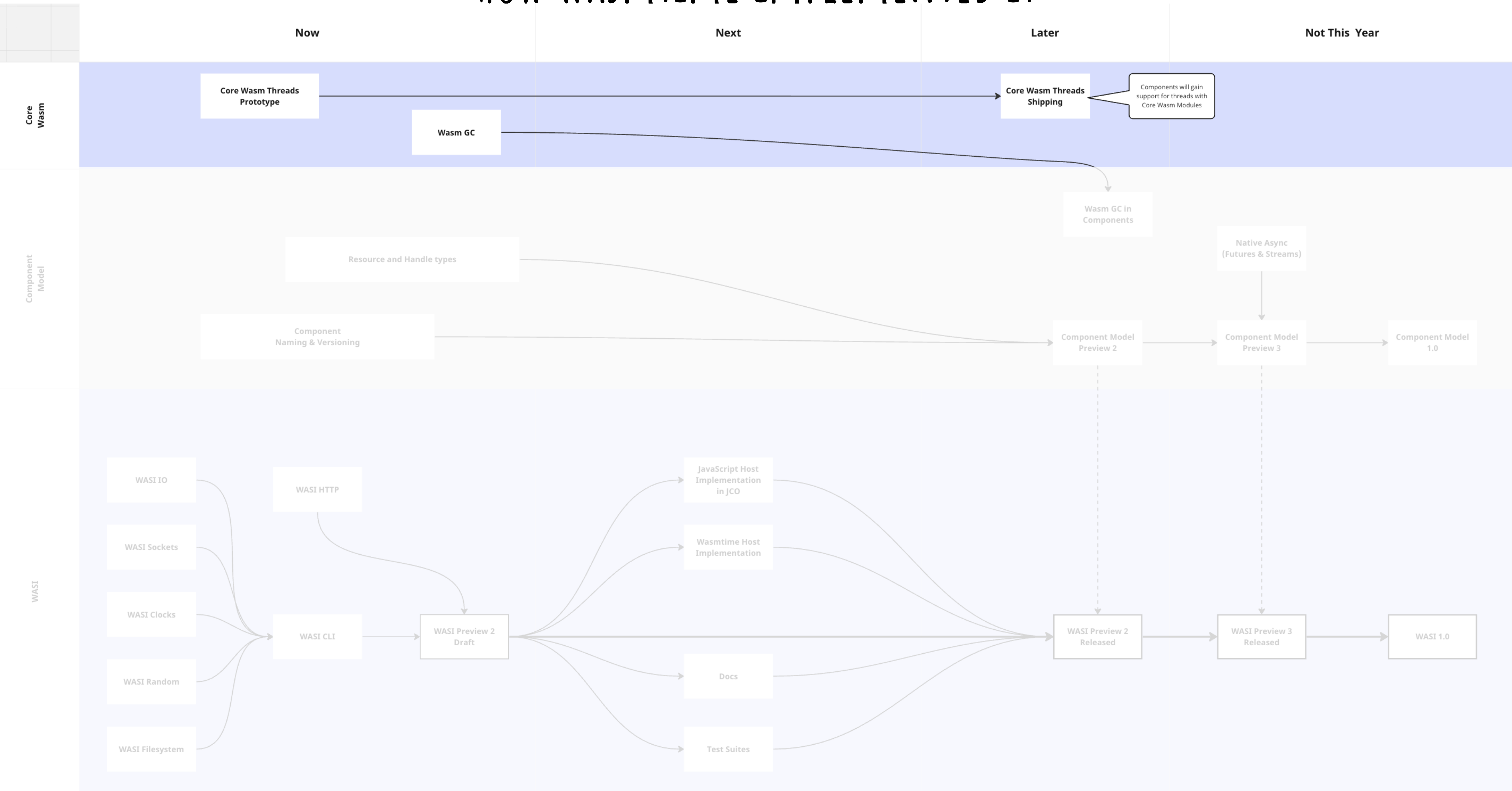

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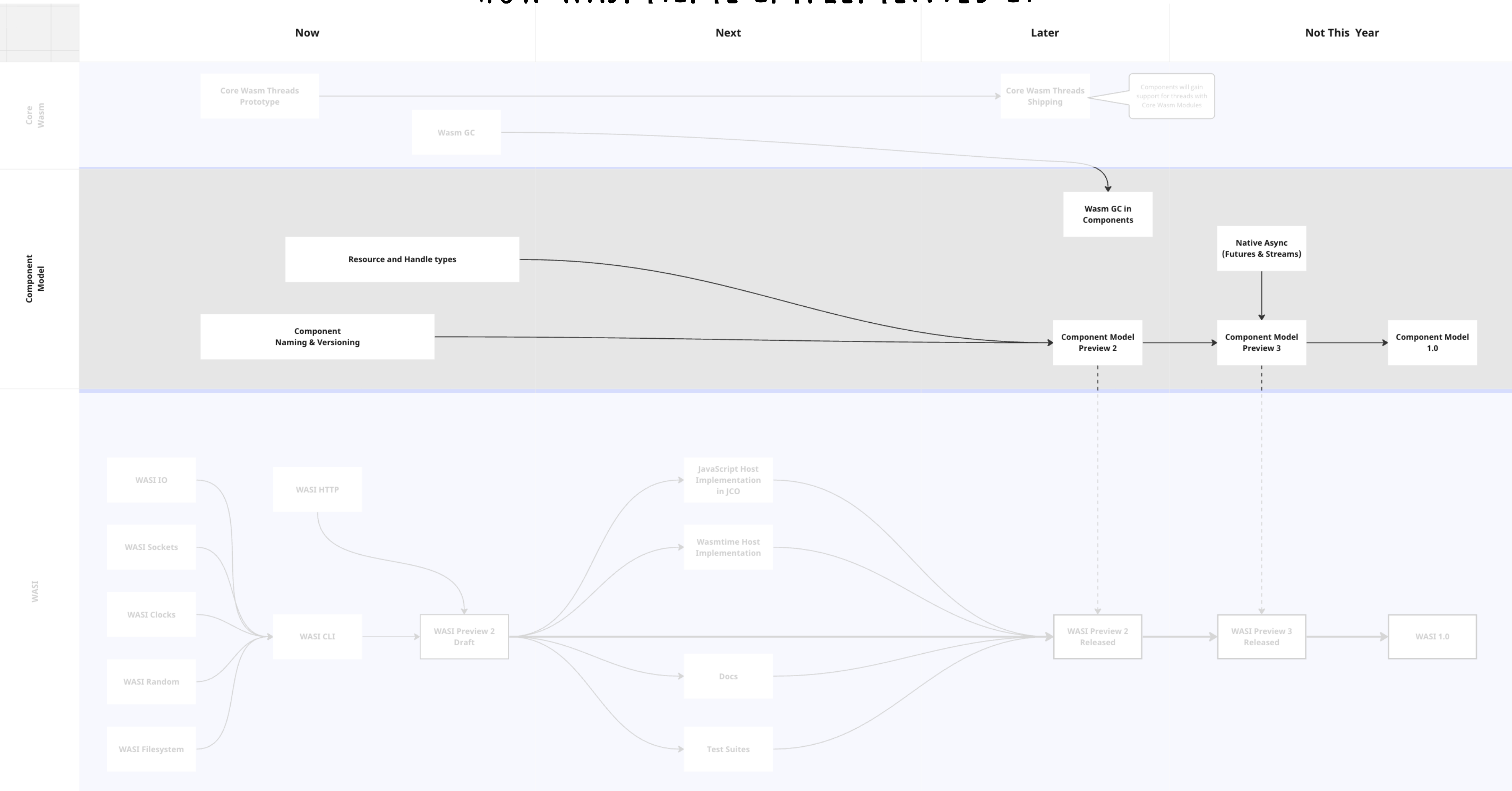

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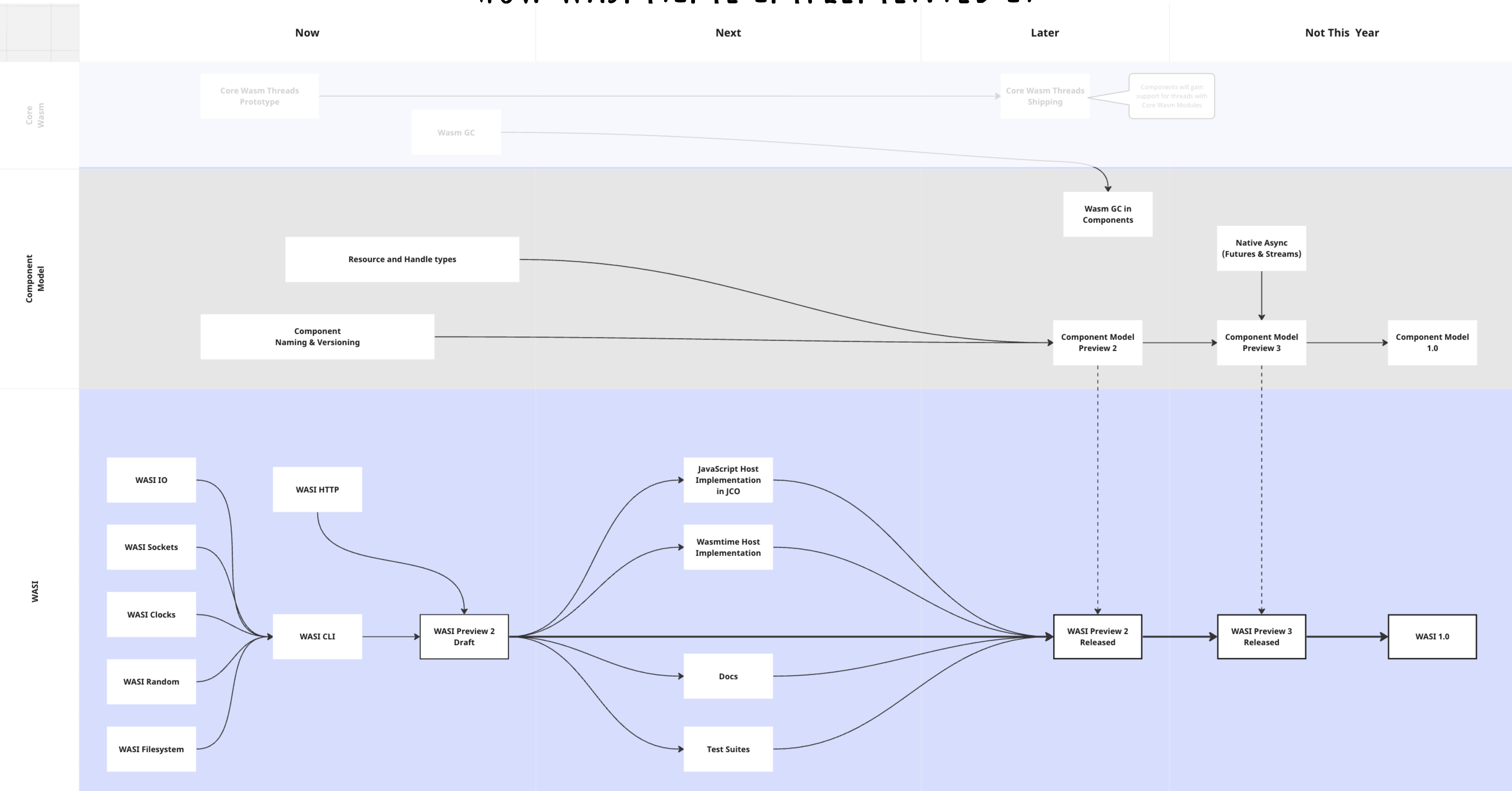
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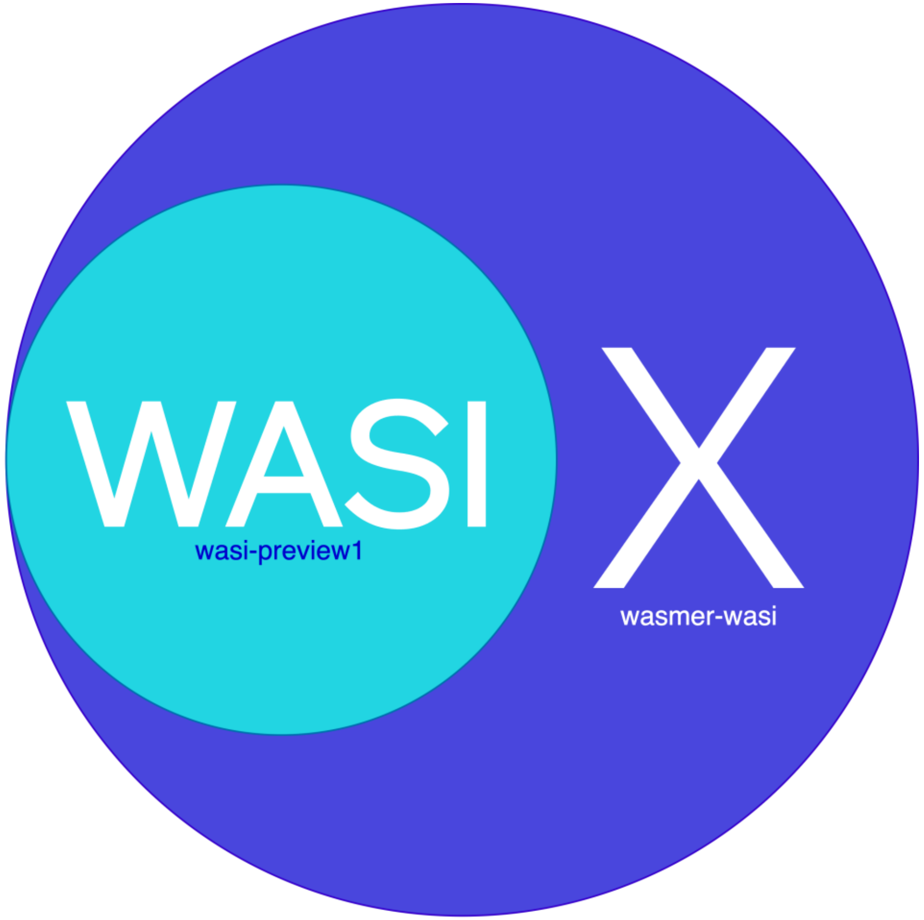
WASIX



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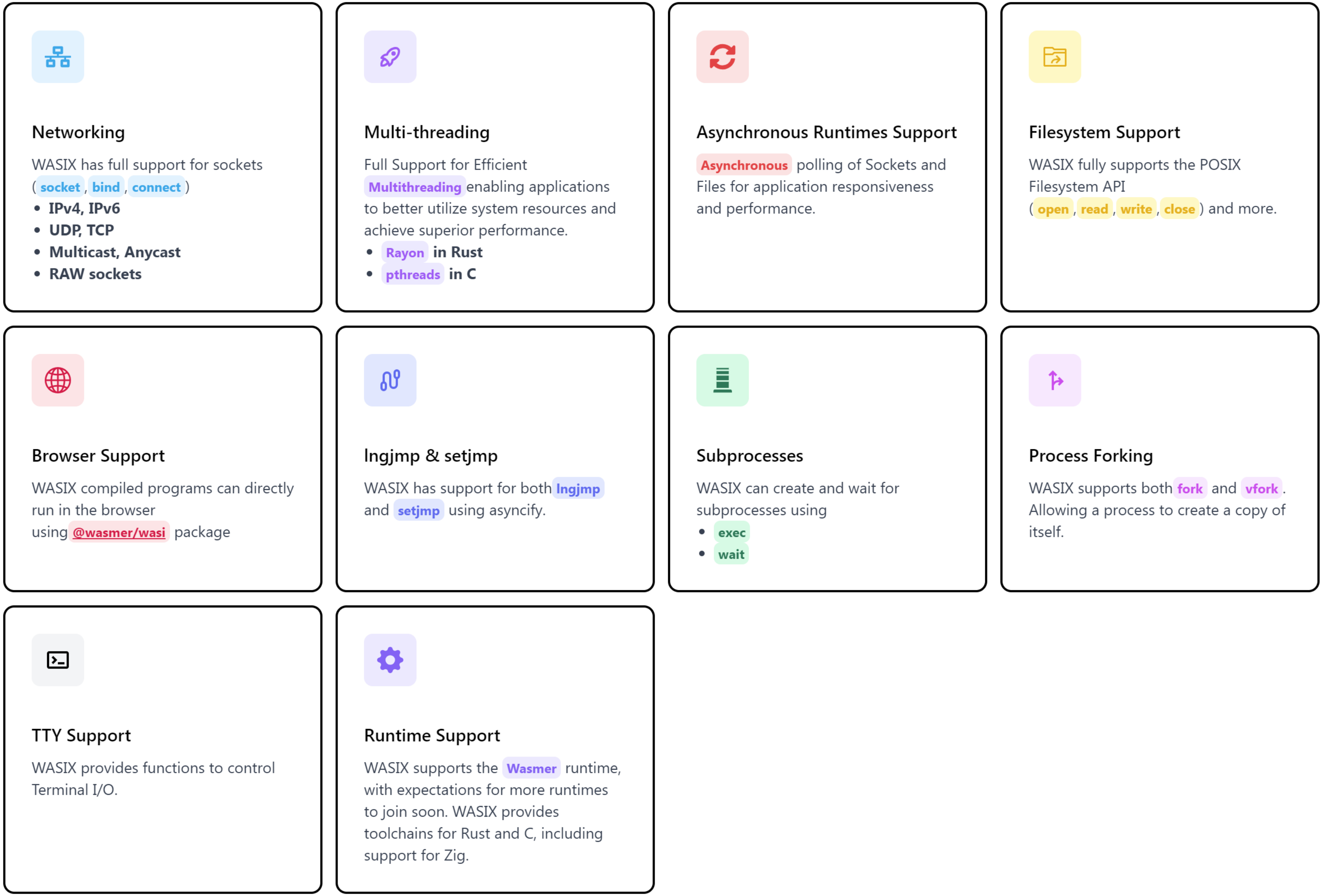

Networking

WASIX has full support for sockets (socket , bind , connect)

- **IPv4, IPv6**
- **UDP, TCP**
- **Multicast, Anycast**
- **RAW sockets**

Multi-threading

Full Support for Efficient Multithreading enabling applications to better utilize system resources and achieve superior performance.

- Rayon **in Rust**
- pthreads **in C**

Asynchronous Runtimes Support

Asynchronous polling of Sockets and Files for application responsiveness and performance.

Filesystem Support

WASIX fully supports the POSIX Filesystem API (open , read , write , close) and more.

Browser Support

WASIX compiled programs can directly run in the browser using @wasmer/wasi package

lngjmp & setjmp

WASIX has support for both lngjmp and setjmp using asyncify.

Subprocesses

WASIX can create and wait for subprocesses using

- exec
- wait

Process Forking

WASIX supports both fork and vfork . Allowing a process to create a copy of itself.

TTY Support

WASIX provides functions to control Terminal I/O.

Runtime Support

WASIX supports the Wasmer runtime, with expectations for more runtimes to join soon. WASIX provides toolchains for Rust and C, including support for Zig.

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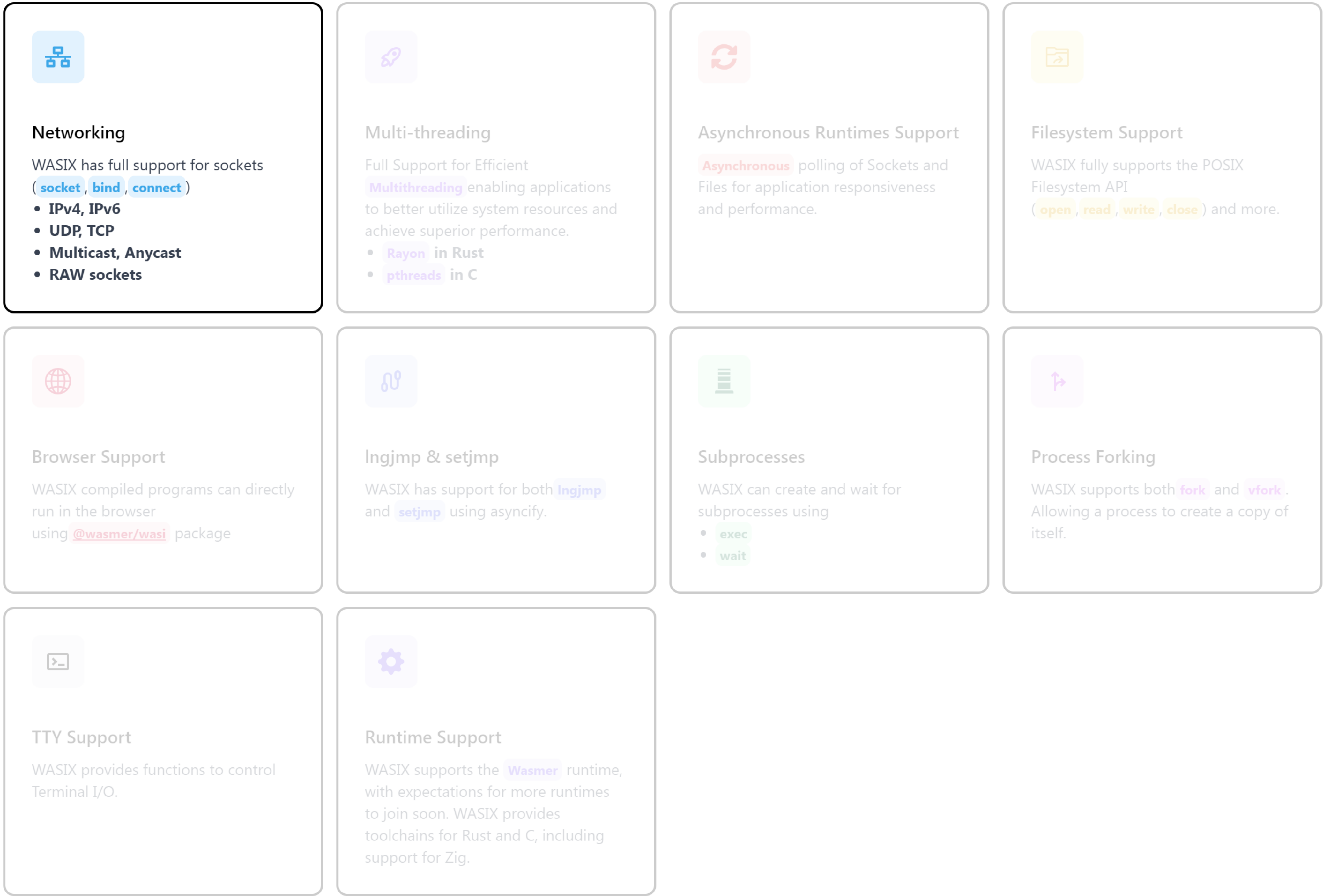

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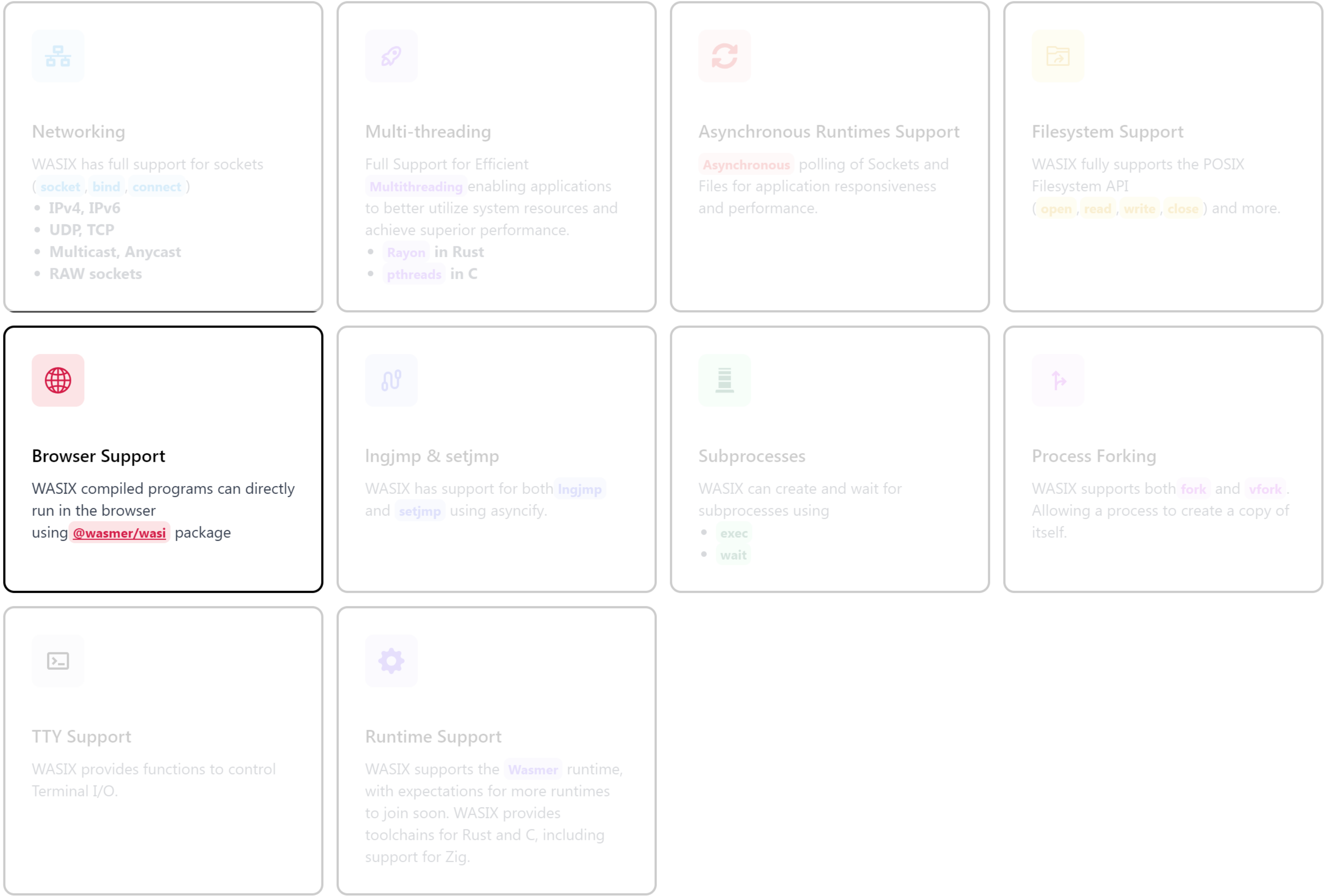

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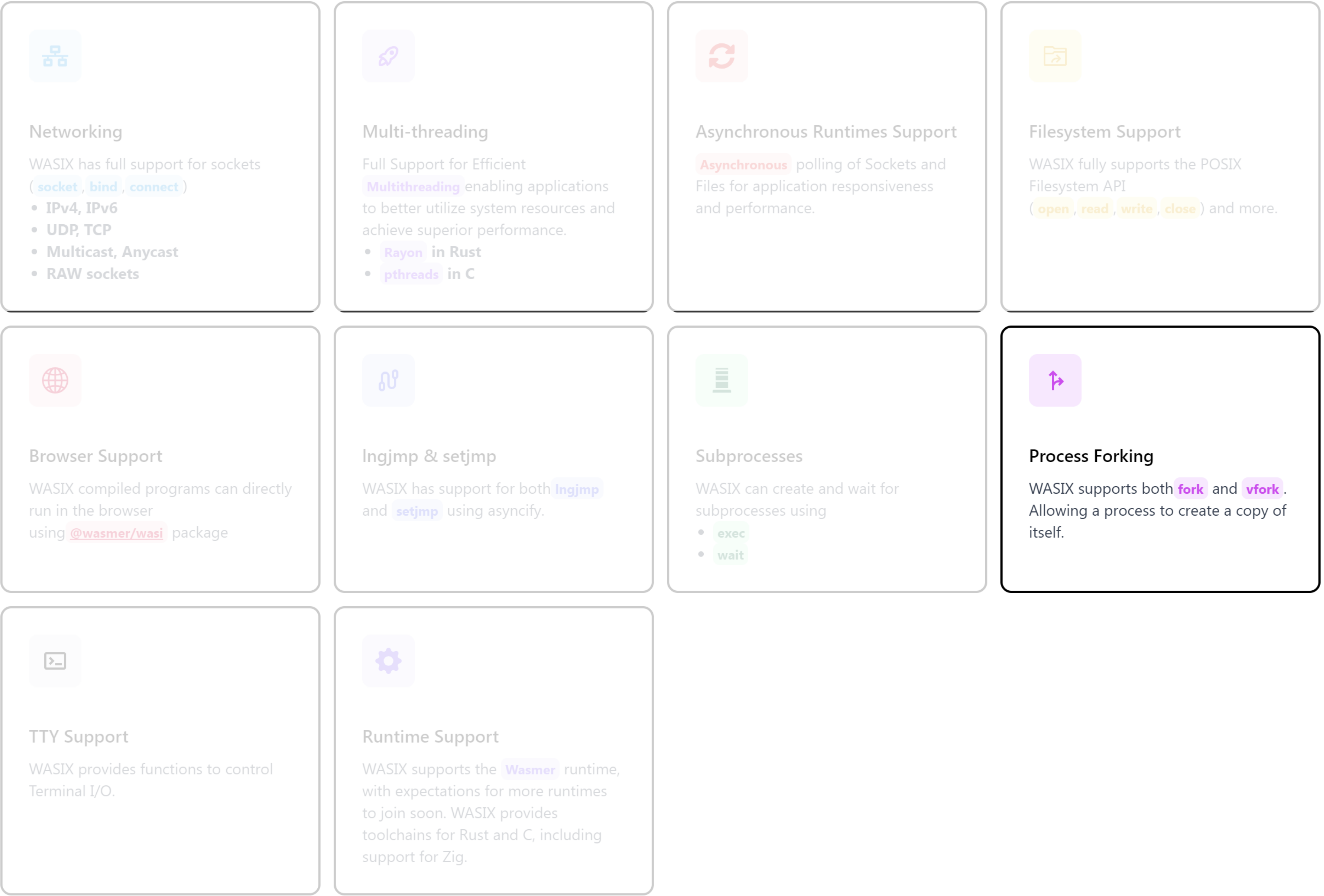

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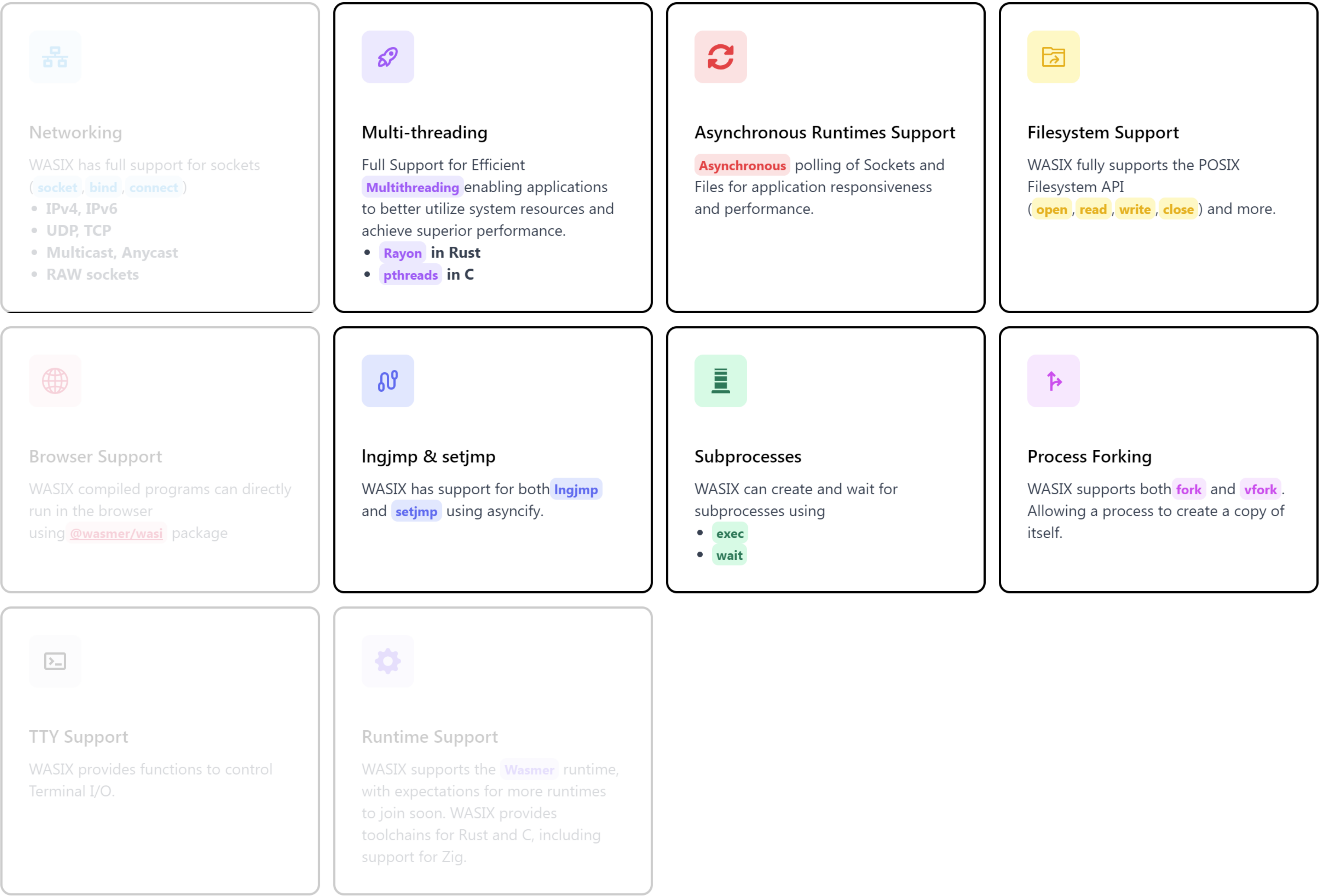

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