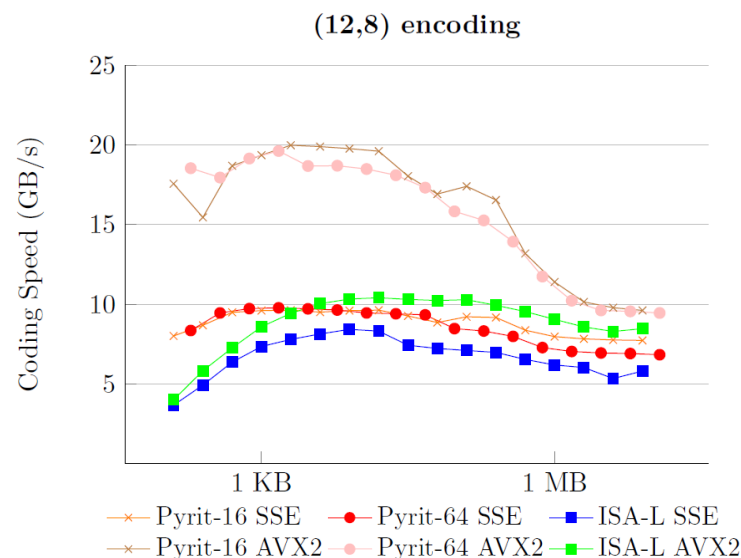**TOULOUSE
TECH
TRANSFER**

PYRIT: a new high-perf. and versatile erasure code for distributed storage

Erasure codes adoption in distributed storage applications is slowed down by encoding/decoding overhead and need for carefully optimized architectures.

COMPETITIVE ADVANTAGES

- x2 performance Vs Intel ISA-L
- Simple algorithm easy to integrate
- Possible HW acceleration or parralelization

DESCRIPTION*

- Pyrit is a new erasure code algorithm based on an innovative mathematical approach
- The algorithm becomes much simpler
- Up to 2X gain for encoding or decoding speed compared to Intel's optimized ISA-L library (test in single thread, see below)
- Suited to even low-cost CPUs with predictable performance
- Low memory requirements
- Can benefit from hardware acceleration and multi-threading

APPLICATIONS

- Integrated storage devices
- Cloud storage
- Multi-site storage

(12,8) encoding

Legend:
- Pyrit-16 SSE
- Pyrit-64 SSE
- ISA-L SSE
- Pyrit-16 AVX2
- Pyrit-64 AVX2
- ISA-L AVX2

INTELLECTUAL PROPERTY

- Software

DEVELOPMENT STAGE

- Technology validated at lab level

| 1 | 2 | 3 | **4** | 5 | 6 | 7 | 8 | 9 |

LABORATORY

- DISC team

**Isae
SUPAERO**

TECHNICAL SPECIFICATIONS

Target	Any CPU
Threading	Single, multi-thread possible

CONTACT

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