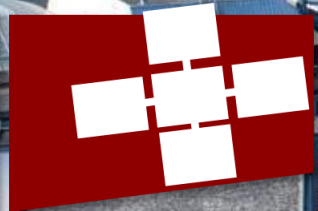


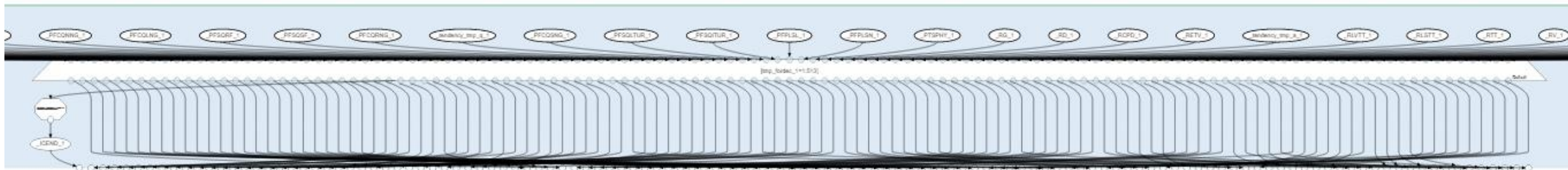
Alexandru Calotoiu

DaFIEx



Fortran frontend prototype

- CloudSC application



- Fully parallel SDFG – validates correctly in serial & parallel mode
- Better parallel performance than original code with 8 or more threads
- Automation complete.

Challenges

	Fortran	DaCe	DaCe - thread locals
Serial	8,8	11,52	11,44
2 Threads	5,96	7,04	7,08
4 Threads	4,64	4,8	4,82
8 Threads	4,06	3,7	3,74
16 Threads	3,9	3,28	3,34
32 Threads	3,62	3,02	3,02

- **OpenMP functionality in C + Fortran configuration**
- **Build system issues – numerical stability**
- **.SO library integration**

F2DaCe – DaCe integration

- CI / CD
- Test suites
- PR preparation in progress
- Fparser handling improvements for readability

```

    1: Type_Declaration Stmt(Intrinsic_Type_Spec('INTEGER', None), None, En
    > special variables
    > function variables
    children: (Intrinsic_Type_Spec(...ER', None), None, Entity_Decl_List('
    > special variables
    > function variables
    > 0: Intrinsic_Type_Spec('INTEGER', None)
        1: None
    > 2: Entity_Decl_List(',', (Entity_Decl(Name('a'), None, None, None), E

```