Birdhouse/PAVICS workshop, Feb 12th to Feb15th

#Dates: 🗓 12 févr. 2018 au 🗓 15 févr. 2018

Lieu: CRIM, Salle 2041 (max. 16 participants) et salle 2046 (max. 6 participants)

Abstract:

As the number of scientific studies and policy decisions requiring tailored climate information continues to increase, the demand for support from climate service centers to provide the latest information in the format most helpful for the end-user is also on the rise. Ouranos, being one such organization based in Montreal, has partnered with the Centre de recherche informatique de Montreal (CRIM) to develop a platform that will offer climate data products that have been identified as most useful for users through years of consultation. Funded by CANARIE, the PAVICS platform is built as modular free and open source (FOSS) components that target the various requirements of climate data analysis.

PAVICS relies on Birdhouse, a collection of Python components to support data processing in the climate science community created by the German Climate Computing Centre (DKRZ) and Institut Pierre-Simon-Laplace (IPSL). Birdhouse exposes Open Geospatial Consortium (OGC) Web Processing Service (WPS) standard-based interfaces. One of these WPS, Flyingpigeon, contains a variety of processes and workflows used in climate impact or extreme weather event studies. Recents projects at CRIM and DKRZ advanced computing capabilities, application packaging, deployment processes and security, while enabling Earth Observation (EO) processes relevant to climate science and sustainable development in institutions like GIZ.

This workshop aims to: share know-how and architectural approaches on middleware, services and research platforms; provide hands-on coding sessions to improve software components; state on practices to adopt for collaborative FOSS development; explore and align current and upcoming software development projects; strengthen Canada-Germany collaboration in Earth Sciences for scientifc communities and sustainable development.

Participants:

Carsten Eberecht, software architect, German Climate Computing Centre (DKRZ)

Dr. Nils Hempelmann, technical advisor, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

Tom Landry, project manager, CRIM

David Byrns, technical lead, CRIM

Samuel Foucher, principal investigator, CRIM

Équipe PAVICS du CRIM

Blaise Gauvin St-Denis, Ouranos

Travis Logan, Ouranos

Trevor Smith, Ouranos

David Huard, Ouranos

Mourad Labassi, Ouranos

Invited speakers:

Dr. Ingo Simonis, Director, Interoperability Programs and Science, OGC (confirmed)

Charles Doutriaux, Data Scientist, Lawrence Livermore National Laboratory (confirmed)

Ben Koziol, Software Engineer, NOAA Environmental Software Infrastructure and Interoperability group (confirmed)

CANARIE (unconfirmed)

Quebec Innovation, Science and Economy Ministry (unconfirmed)

Programme - draft

	Monday 12th	Tuesday 13th	Wednesday 14th	Thursday 15th
9h00	Welcome to participants Workshop agenda review Canada-led activities - CRIM, Ouranos - Other collaborators	Technical and architectural discussion: upcoming or current projects - Copernicus (CLIPC) - Horizon 2020 (IS-ENES) - NRCan Forestry Innovation Program (FIP)	Orchestration and sceduling part I - DRMAA in PyWPS for HPC - Celery and Docker for Cloud - Apache Spark	**LIVE STREAM** **Nils Hempelmann, GIZ (internal)**: Big Data eInfrastructure for sustainable development International cooperation, World Bank, United Nations, etc.
10h00	Germany-led activities - DKRZ, GIZ - FU Berlin, DLR - GERICS, PIK, LRZ	**LIVE STREAM** **Ingo Simonis, OGC (external)**: OGC NextGen Technical and architectural discussion: Upcoming or current projects: TB-14	Orchestration and sceduling part II - Demonstrations - Kubernetes - Docker Swarm - Dask	Best / Good practices in FOSS development Documentation, licences, PR, Releases, Bug tracking, etc.
10h45	BREAK - BREAK			
11h00	DEMOS - PAVICS - OGC TB-13 - NRCan06 - Birdhouse	**LIVE STREAM** Architecture: Common components - WPS clients - Core services & birds - Workflows **Charles Doutriaux, LLNL (external)**: ESGF-CWT Certification	**LIVE STREAM** **Samuel Foucher, CRIM (internal):** EO activities at CRIM - Imagery, detection, segmentation, filtering, machine learning Architecture: EO services - Hatching a new bird	Best / Good practices in FOSS development - Deployment (Conda, Ansible, etc.) - Testing, continuous integration, registries, etc.
12h00	LUNCH - LUNCH			
13h00	**LIVE STREAM** Architecture: Middleware (cybersecurity, proxy) - Twitcher - Magpie - Phoenix	**LIVE STREAM** Architecture: Climate Services - FlyingPigeon - Other canadian and global initiatives **Ben Koziol, NOAA (external):** OpenClimateGIS	**LIVE STREAM** Architecture: Thematic platforms - PAVICS - Phoenix - ESA TEP - Adnotare / VESTA / PACTE	**LIVE STREAM** Birdhouse VideoConference - Workshop findings - Upcoming work - Funding opportunities
14h00	Middleware: coding plan	Services: coding plan	Platform: coding plan	CODING | VideoConference
14h45	BREAK - BREAK			
15h00	CODING	CODING | FOSS4G abstract	CODING | FOSS4G abstract	CODING | FOSS4G abstract
16h00	CODING	CODING | FOSS4G abstract	CODING | FOSS4G abstract	CODING | FOSS4G abstract
16h30	CODING	Cybersecurity Networking event	CODING | FOSS4G abstract	CODING | FOSS4G abstract
17h00	END OF DAY - END OF DAY			

Detailed agenda

- FOSS4G - Dar es Salaam