

Evolution des outils de traitement et de synchronisation des données et audit de la chaîne de calcul de l'IPSL

- *Support sur les outils élémentaires de traitement des données*
- *Synchronisation des fichiers d'entrée des modèles entre les centres de calcul utilisés par l'IPSL*
- *Audit et évaluation de la chaîne de calcul de l'IPSL*

LOT 3 : Audit et évaluation de la chaîne de calcul de l'IPSL

Objectif : Evaluer la chaîne de production

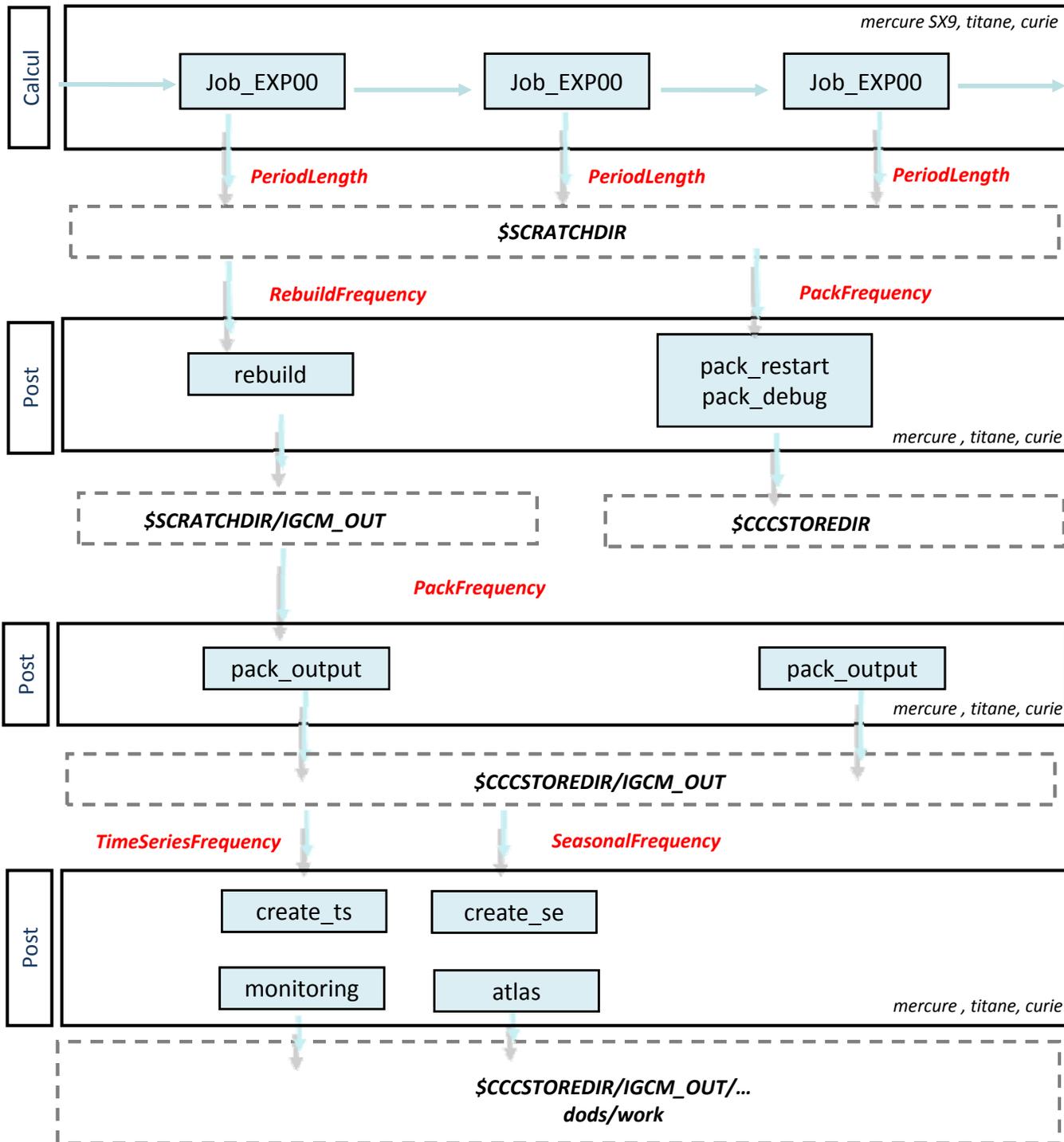
- sur les machines du CCRT/TGCC : mercure (calcul + post) et curie (calcul + post)
- sur les machines de l'IDRIS : vargas (calcul) et ulam (post).

Critères d'évaluation

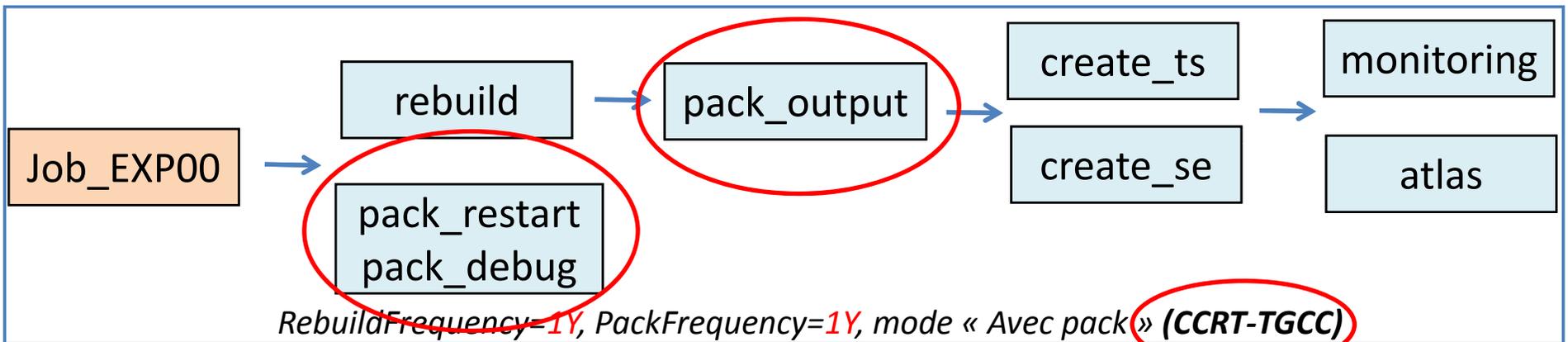
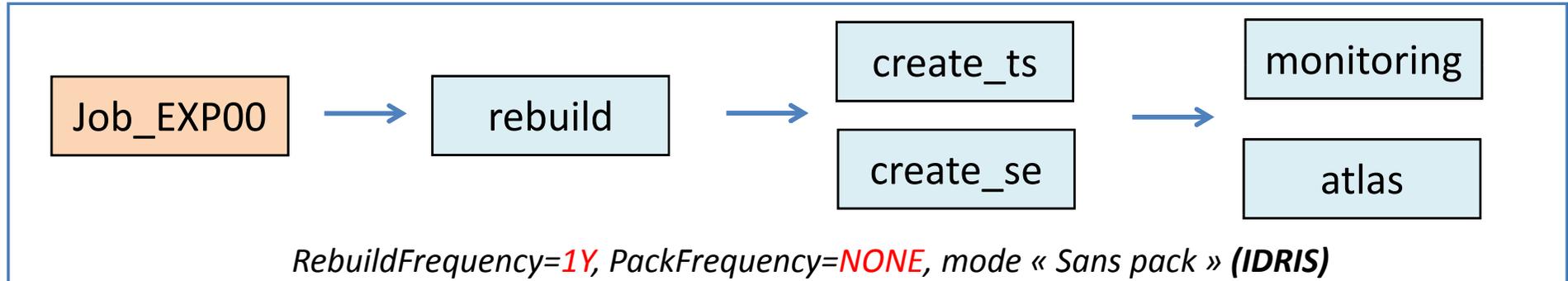
- fiabilité
- efficacité
- (facilité d'utilisation)

Ce qu'on attend : un document/rapport

- décrivant et analysant, suivant ces critères-là, la chaîne de calcul de l'IPSL.
- destiné à une diffusion interne IPSL et externe (centres de calcul)
- base de dialogue entre l'IPSL et les centres de calcul.



Simulations avec libIGCM : IDRIS et TGCC



LOT 3 : Audit et évaluation de la chaîne de calcul de l'IPSL

Description...

Analyse : analyse de la chaîne de calcul.

- critère de fiabilité : déterminer la capacité de la chaîne, sur une machine particulière, à permettre de réaliser une simulation sans avoir besoin d'intervention humaine. Estimation des causes de plantage et temps humain passé à résoudre.
- critère d'efficacité : évaluer l'adéquation chaîne de calcul/centre de calcul, mettre en avant les mauvais points en termes de performances.
 - 1^{er} niveau : enchaînement des jobs, temps d'attente, temps d'exécution
 - 2^{ème} niveau : job : part des tâches au sein d'un job (copie fichiers, execution de la commande, choix filesystems, performances filesystems (débit théorique vs débit réel)

Conclusions...

LOT 3 : Audit et évaluation de la chaîne de calcul de l'IPSL

Tâches à réaliser

1. prise en main de la chaîne de calcul et formation à son utilisation
2. lancement et analyse d'une simulation type de 10 ans sur les calculateurs Curie (TGCC) et Vargas-Ulam (IDRIS)
3. **choix de l'information utile à extraire d'une simulation**
4. **développement de scripts d'extraction de cette information :**
 - **temps de calcul, temps de restitution, temps d'attente d'un job,...) à partir des scripts de sortie d'une simulation donnée.**
 - **part/performances des tâches au sein d'un job**
5. **analyse de la chaîne de calcul suivant les critères d'étude choisis.**
6. écriture du rapport

Données à disposition

- simulations "type" de l'IPSL ayant déjà tourné sur les machines du CCRT/TGCC et l'IDRIS.
 - simulation avec calcul et post-traitement sur Curie (TGCC)
 - simulation avec calcul sur Vargas(IDRIS) et post-traitement sur Ulam(IDRIS)
- simulations à lancer avec « nouveaux scripts » pour profiling au sein d'un job

IDRIS – Vargas – Ulam – Fiabilité – Job calcul

Simulation historique (156 ans)

- 2 plantages « machine » dûs : pb de connexion vargas-ulam
connect to address ::ffff:130.84.196.29: Connection refused
Machine calcul != machine post => perte de fiabilité
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TGCC - Curie – Fiabilité – Job calcul

Simulation historique (156 ans)

- 10 erreurs « machine »
 - *forrtl: severe (174): SIGSEGV, segmentation fault occurred*
 - *probleme IO sur scratch*
 - *slurmd[curie1150]: *** STEP 438782.1 KILLED AT 2012-06-10T18:45:41 WITH SIGNAL 9 ****
- Estimation Temps perdu ~ 45h
Temps perdu = temps de s'en apercevoir + temps pour relancer + temps d'attente

IDRIS – Vargas - Ulam – Efficacité - Niveau 1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
historivalV52	53	00:00:00	10:30:00	00:34:03	30:05:00	00:24:00	19:15:00	12:58:36	687:46:00
REBUILDARCH	155	00:00:00	43:55:00	02:31:13	390:39:00	00:59:00	09:44:00	03:35:10	555:51:00
TS	405	00:00:00	32:08:00	05:03:04	2045:45:00	00:02:00	20:08:00	03:06:24	1258:14:00
SE	14	03:37:00	32:47:00	14:42:47	205:59:00	00:40:00	01:24:00	00:48:51	11:24:00
ATL_LMDZ	14	00:00:00	04:30:00	00:33:39	07:51:00	00:08:00	00:26:00	00:14:30	03:23:00
ATL_OPA	14	00:00:00	04:36:00	00:38:43	09:02:00	00:14:00	00:29:00	00:17:26	04:04:00
ATL_ORCH	14	00:00:00	04:18:00	00:31:04	07:15:00	00:05:00	00:12:00	00:06:43	01:34:00
ATL_PIS	14	00:00:00	04:37:00	00:47:39	11:07:00	00:08:00	00:15:00	00:10:04	02:21:00
MONITORING	20	00:02:00	37:50:00	02:20:36	265:21:00	00:01:00	00:37:00	00:15:30	07:10:00

TGCC - Curie – Efficacité - Niveau 1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
Script_Output_v3.historicalC74	89	00:00:00	13:25:20	00:47:57	71:07:37	04:02:15	06:16:23	04:48:30	427:56:55
rebuild_fromWorkdir	152	00:00:00	11:39:09	00:22:00	55:43:27	01:07:59	02:47:53	01:18:59	200:05:49
create_ts.total	435	00:00:00	00:22:16	00:00:49	05:52:40	00:00:42	02:47:56	00:31:49	230:43:31
create_se	16	00:00:00	00:22:16	00:02:17	00:36:27	00:10:03	00:28:36	00:18:06	04:49:37
atlas_LDMZ	16	00:00:00	00:00:32	00:00:17	00:04:25	00:05:53	00:26:07	00:08:32	02:16:28
atlas_ORCA_LIM	16	00:00:00	00:00:32	00:00:16	00:04:20	00:07:28	00:33:37	00:10:32	02:48:31
atlas_ORCHIDEE	16	00:00:00	00:00:33	00:00:17	00:04:33	00:03:03	00:19:15	00:04:38	01:14:03
atlas_PISCES	16	00:00:00	00:00:31	00:00:16	00:04:13	00:03:34	00:15:57	00:05:05	01:21:19
monitoring	15	00:00:00	00:03:33	00:00:28	00:07:07	00:02:08	00:17:18	00:08:27	02:06:50
pack_debug	152	00:00:00	11:39:11	00:22:01	55:45:57	00:00:05	00:05:55	00:00:14	00:35:39
pack_output	152	00:00:00	09:06:19	00:17:13	43:36:21	00:07:13	01:57:36	00:10:16	26:01:28
pack_restart	152	00:00:00	11:39:10	00:22:00	55:43:12	00:01:31	00:06:57	00:02:17	05:47:22

IDRIS – Vargas - Ulam – Efficacité - Niveau 1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
historivalV52	53	00:00:00	10:30:00	00:34:03	30:05:00	00:24:00	19:15:00	12:58:36	687:46:00
REBUILDARCH	155	00:00:00	43:55:00	02:31:13	390:39:00	00:59:00	09:44:00	03:35:10	555:51:00
TS	405	00:00:00	32:08:00	05:03:04	2045:45:00	00:02:00	20:08:00	03:06:24	1258:14:00
SE	14	03:37:00	32:47:00	14:42:47	205:59:00	00:40:00	01:24:00	00:48:51	11:24:00
ATL_LMDZ	14	00:00:00	04:30:00	00:33:39	07:51:00	00:08:00	00:26:00	00:14:30	03:23:00
ATL_OPA	14	00:00:00	04:36:00	00:38:43	09:02:00	00:14:00	00:29:00	00:17:26	04:04:00
ATL_ORCH	14	00:00:00	04:18:00	00:31:04	07:15:00	00:05:00	00:12:00	00:06:43	01:34:00
ATL_PIS	14	00:00:00	04:37:00	00:47:39	11:07:00	00:08:00	00:15:00	00:10:04	02:21:00
MONITORING	20	00:02:00	37:50:00	02:20:36	265:21:00	00:01:00	00:37:00	00:15:30	07:10:00

TGCC - Curie – Efficacité - Niveau 1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
Script Output v3.historicalC74	89	00:00:00	13:25:20	00:47:57	71:07:37	04:02:15	06:16:23	04:48:30	427:56:55
rebuild_fromWorkdir	152	00:00:00	11:39:09	00:22:00	55:43:27	01:07:59	02:47:53	01:18:59	288:05:43
create_ts.total	435	00:00:00	00:22:16	00:00:49	05:52:40	00:00:42	02:47:56	00:31:49	230:43:31
create_se	16	00:00:00	00:22:16	00:02:17	00:36:27	00:10:03	00:28:36	00:18:06	04:49:37
atlas_LDMZ	16	00:00:00	00:00:32	00:00:17	00:04:25	00:05:53	00:26:07	00:08:32	02:16:28
atlas_ORCA_LIM	16	00:00:00	00:00:32	00:00:16	00:04:20	00:07:28	00:33:37	00:10:32	02:48:31
atlas_ORCHIDEE	16	00:00:00	00:00:33	00:00:17	00:04:33	00:03:03	00:19:15	00:04:38	01:14:03
atlas_PISCES	16	00:00:00	00:00:31	00:00:16	00:04:13	00:03:34	00:15:57	00:05:05	01:21:19
monitoring	15	00:00:00	00:03:33	00:00:28	00:07:07	00:02:08	00:17:18	00:08:27	02:06:50
pack_debug	152	00:00:00	11:39:11	00:22:01	55:45:57	00:00:05	00:05:55	00:00:14	00:35:39
pack_output	152	00:00:00	09:06:19	00:17:13	43:36:21	00:07:13	01:57:36	00:10:16	26:01:28
pack_restart	152	00:00:00	11:39:10	00:22:00	55:43:12	00:01:31	00:06:57	00:02:17	05:47:22

IDRIS – Vargas - Ulam – Efficacité Niveau 1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
historiqueVU2	53	00:00:00	10:30:00	00:34:03	30:05:00	00:24:00	19:15:00	12:58:36	687:46:00
REBUILDARCH	155	00:00:00	43:55:00	02:31:13	390:39:00	00:59:00	09:44:00	03:35:10	555:51:00
IS	185	00:00:00	32:00:00	05:00:01	2815:15:00	00:02:00	20:00:00	00:00:21	1200:11:00
SE	14	03:37:00	32:47:00	14:42:47	205:59:00	00:40:00	01:24:00	00:48:51	11:24:00
ATL_LMDZ	14	00:00:00	04:30:00	00:33:39	07:51:00	00:08:00	00:26:00	00:14:30	03:23:00
ATL_OPA	14	00:00:00	04:36:00	00:38:43	09:02:00	00:14:00	00:29:00	00:17:26	04:04:00
ATL_ORCH	14	00:00:00	04:18:00	00:31:04	07:15:00	00:05:00	00:12:00	00:06:43	01:34:00
ATL_PIS	14	00:00:00	04:37:00	00:47:39	11:07:00	00:08:00	00:15:00	00:10:04	02:21:00
MONITORING	20	00:02:00	37:50:00	02:20:36	265:21:00	00:01:00	00:37:00	00:15:30	07:10:00

TGCC - Curie – Efficacité - Niveau 1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
Script Output vs.historique1C74	89	00:00:00	13:25:20	00:47:57	71:07:37	04:02:15	06:16:23	04:48:30	127:30:55
rebuild_fromWorkdir	152	00:00:00	11:39:09	00:22:00	55:43:27	01:07:59	02:47:53	01:18:59	200:05:49
create_ts.total	435	00:00:00	00:22:16	00:00:49	05:52:40	00:00:42	02:47:56	00:31:49	230:43:31
create_se	16	00:00:00	00:22:16	00:02:17	00:36:27	00:10:03	00:28:36	00:18:06	04:49:37
atlas_LDMZ	16	00:00:00	00:00:32	00:00:17	00:04:25	00:05:53	00:26:07	00:08:32	02:16:28
atlas_ORCA_LIM	16	00:00:00	00:00:32	00:00:16	00:04:20	00:07:28	00:33:37	00:10:32	02:48:31
atlas_ORCHIDEE	16	00:00:00	00:00:33	00:00:17	00:04:33	00:03:03	00:19:15	00:04:38	01:14:03
atlas_PISCES	16	00:00:00	00:00:31	00:00:16	00:04:13	00:03:34	00:15:57	00:05:05	01:21:19
monitoring	15	00:00:00	00:03:33	00:00:28	00:07:07	00:02:08	00:17:18	00:08:27	02:06:50
pack_debug	152	00:00:00	11:39:11	00:22:01	55:45:57	00:00:05	00:05:55	00:00:14	00:35:39
pack_output	152	00:00:00	09:06:19	00:17:13	43:36:21	00:07:13	01:57:36	00:10:16	26:01:28
pack_restart	152	00:00:00	11:39:10	00:22:00	55:43:12	00:01:31	00:06:57	00:02:17	05:47:22

IDRIS – Vargas - Ulam – Efficacité - Niveau 1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
historivalV52	53	00:00:00	10:30:00	00:34:03	30:05:00	00:24:00	19:15:00	12:58:36	687:46:00
REBUILDARCH	153	00:00:00	43:55:00	02:31:13	390:39:00	00:59:00	09:44:00	03:35:10	333:51:00
IS	405	00:00:00	32:08:00	05:03:04	2045:45:00	00:02:00	20:08:00	03:06:24	1258:14:00
SE	14	03:37:00	32:47:00	14:42:47	205:59:00	00:40:00	01:24:00	00:48:51	11:24:00
ATL_LMDZ	14	00:00:00	04:30:00	00:33:39	07:51:00	00:08:00	00:26:00	00:14:30	03:23:00
ATL_OPA	14	00:00:00	04:36:00	00:38:43	09:02:00	00:14:00	00:29:00	00:17:26	04:04:00
ATL_ORCH	14	00:00:00	04:18:00	00:31:04	07:15:00	00:05:00	00:12:00	00:06:43	01:34:00
ATL_PIS	14	00:00:00	04:37:00	00:47:39	11:07:00	00:08:00	00:15:00	00:10:04	02:21:00
MONITORING	20	00:02:00	37:50:00	02:20:36	265:21:00	00:01:00	00:37:00	00:15:30	07:10:00

TGCC - Curie – Efficacité - Niveau 1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
Script_Output_v3.historicalC74	89	00:00:00	13:25:20	00:47:57	71:07:37	04:02:15	06:16:23	04:48:30	427:56:55
rebuild_fromWorkdir	152	00:00:00	11:39:00	00:22:00	55:43:27	01:07:50	02:47:53	01:18:50	200:05:40
create_ts.total	435	00:00:00	00:22:16	00:00:49	05:52:40	00:00:42	02:47:56	00:31:49	230:43:31
create_se	16	00:00:00	00:22:16	00:02:17	00:30:27	00:10:03	00:20:30	00:10:00	01:19:37
atlas_LDMZ	16	00:00:00	00:00:32	00:00:17	00:04:25	00:05:53	00:26:07	00:08:32	02:16:28
atlas_ORCA_LIM	16	00:00:00	00:00:32	00:00:16	00:04:20	00:07:28	00:33:37	00:10:32	02:48:31
atlas_ORCHIDEE	16	00:00:00	00:00:33	00:00:17	00:04:33	00:03:03	00:19:15	00:04:38	01:14:03
atlas_PISCES	16	00:00:00	00:00:31	00:00:16	00:04:13	00:03:34	00:15:57	00:05:05	01:21:19
monitoring	15	00:00:00	00:03:33	00:00:28	00:07:07	00:02:08	00:17:18	00:08:27	02:06:50
pack_debug	152	00:00:00	11:39:11	00:22:01	55:45:57	00:00:05	00:05:55	00:00:14	00:35:39
pack_output	152	00:00:00	09:06:19	00:17:13	43:36:21	00:07:13	01:57:36	00:10:16	26:01:28
pack_restart	152	00:00:00	11:39:10	00:22:00	55:43:12	00:01:31	00:06:57	00:02:17	05:47:22

IDRIS – Vargas - Ulam – Efficacité - Niveau 1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
historivalV52	53	00:00:00	10:30:00	00:34:03	30:05:00	00:24:00	19:15:00	12:58:36	687:46:00
REBUILDARCH	155	00:00:00	43:55:00	02:31:13	390:39:00	00:59:00	09:44:00	03:35:10	555:51:00
TS	185	00:00:00	32:08:00	05:03:04	2045:15:00	00:02:00	20:08:00	03:06:24	1258:44:00
SE	14	03:37:00	32:47:00	14:42:47	205:59:00	00:40:00	01:24:00	00:48:51	11:24:00
ATL_LDMZ	14	00:00:00	04:30:00	00:33:39	07:51:00	00:08:00	00:26:00	00:14:30	03:23:00
ATL_OPA	14	00:00:00	04:36:00	00:38:43	09:02:00	00:14:00	00:29:00	00:17:26	04:04:00
ATL_ORCH	14	00:00:00	04:18:00	00:31:04	07:15:00	00:05:00	00:12:00	00:06:43	01:34:00
ATL_PIS	14	00:00:00	04:37:00	00:47:39	11:07:00	00:08:00	00:15:00	00:10:04	02:21:00
MONITORING	20	00:02:00	37:58:00	09:28:36	265:21:00	00:04:00	00:37:00	00:15:39	07:10:00

TGCC - Curie – Efficacité - Niveau 1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
Script_Output_v3.historicalC74	89	00:00:00	13:25:20	00:47:57	71:07:37	04:02:15	06:16:23	04:48:30	427:56:55
rebuild_fromWorkdir	152	00:00:00	11:39:09	00:22:00	55:43:27	01:07:59	02:47:53	01:18:59	200:05:49
create_ts.total	435	00:00:00	00:22:16	00:00:49	05:52:40	00:00:42	02:47:56	00:31:49	230:43:11
create_se	16	00:00:00	00:22:16	00:02:17	00:36:27	00:10:03	00:28:36	00:18:06	04:49:37
atlas_LDMZ	16	00:00:00	00:00:32	00:00:17	00:04:25	00:05:53	00:26:07	00:08:32	02:16:28
atlas_ORCA_LIM	16	00:00:00	00:00:32	00:00:16	00:04:20	00:07:28	00:33:37	00:10:32	02:48:31
atlas_ORCHIDEE	16	00:00:00	00:00:33	00:00:17	00:04:33	00:03:03	00:19:15	00:04:38	01:14:03
atlas_PISCES	16	00:00:00	00:00:31	00:00:16	00:04:13	00:03:34	00:15:57	00:05:05	01:21:19
monitoring	15	00:00:00	00:03:33	00:00:28	00:07:07	00:02:08	00:17:18	00:08:27	02:06:50
pack_debug	152	00:00:00	11:39:11	00:22:01	55:45:57	00:00:05	00:05:55	00:00:14	00:35:39
pack_output	152	00:00:00	09:06:19	00:17:13	43:36:21	00:07:13	01:57:36	00:10:16	26:01:28
pack_restart	152	00:00:00	11:39:10	00:22:00	55:43:12	00:01:31	00:06:57	00:02:17	05:47:22

IDRIS – Vargas - Ulam – Efficacité - Niveau 1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
historivalV52	53	00:00:00	10:30:00	00:34:03	30:05:00	00:24:00	19:15:00	12:58:36	687:46:00
REBUILDARCH	155	00:00:00	43:55:00	02:31:13	390:39:00	00:59:00	09:44:00	03:35:10	555:51:00
TS	185	00:00:00	32:08:00	05:03:04	2045:15:00	00:02:00	20:08:00	03:06:24	1258:11:00
SE	14	03:37:00	32:47:00	14:42:47	205:59:00	00:40:00	01:24:00	00:48:51	11:24:00
ATL_LDMZ	14	00:00:00	04:30:00	00:33:39	07:51:00	00:08:00	00:26:00	00:14:30	03:23:00
ATL_OPA								7:26	04:04:00
ATL_ORCH								6:43	01:34:00
ATL_PIS								0:04	02:21:00
MONITORING								5:39	07:10:00

	Attente	Exécution
Calcul	+ Curie (+ jobs)	+ Vargas
Rebuild	++ Ulam	++ Ulam
TS	++ Ulam	++ Ulam
SE	++ Ulam	++ Ulam

Types										
Script_Output_v3.historicalC74	89	00:00:00	13:23:20	00:47:37	71:07:37	04:02:13	06:16:23	04:48:30		427:56:55
rebuild_fromWorkdir	152	00:00:00	11:39:09	00:22:00	55:43:27	01:07:59	02:47:53	01:18:59		200:05:49
create_ts.total	435	00:00:00	00:22:16	00:00:49	03:52:40	00:00:42	02:47:56	00:31:49		230:43:11
create se	16	00:00:00	00:22:16	00:02:17	00:36:27	00:10:03	00:28:36	00:18:06		04:49:37
atlas_LDMZ	16	00:00:00	00:00:32	00:00:17	00:04:25	00:05:53	00:26:07	00:08:32		02:16:28
atlas_ORCA_LIM	16	00:00:00	00:00:32	00:00:16	00:04:20	00:07:28	00:33:37	00:10:32		02:48:31
atlas_ORCHIDEE	16	00:00:00	00:00:33	00:00:17	00:04:33	00:03:03	00:19:15	00:04:38		01:14:03
atlas_PISCES	16	00:00:00	00:00:31	00:00:16	00:04:13	00:03:34	00:15:57	00:05:05		01:21:19
monitoring	15	00:00:00	00:03:33	00:00:28	00:07:07	00:02:08	00:17:18	00:08:27		02:06:50
pack_debug	152	00:00:00	11:39:11	00:22:01	55:45:57	00:00:05	00:05:55	00:00:14		00:35:39
pack_output	152	00:00:00	09:06:19	00:17:13	43:36:21	00:07:13	01:57:36	00:10:16		26:01:28
pack_restart	152	00:00:00	11:39:10	00:22:00	55:43:12	00:01:31	00:06:57	00:02:17		05:47:22

IDRIS – Vargas - Ulam – Efficacité - Niveau

1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
historivalV52	53	00:00:00	10:30:00	00:34:03	30:05:00	00:24:00	19:15:00	12:58:36	687:46:00
REBUILDARCH	155	00:00:00	43:55:00	02:31:13	390:39:00	00:59:00	09:44:00	03:35:10	555:51:00
TS	405	00:00:00	32:08:00	05:03:04	2045:45:00	00:02:00	20:08:00	03:06:24	1258:14:00
SE	14	03:37:00	32:47:00	14:42:47	205:59:00	00:40:00	01:24:00	00:48:51	11:24:00
ATL_LMDZ	14	00:00:00	04:30:00	00:33:39	07:51:00	00:08:00	00:26:00	00:14:30	03:23:00
ATL_OPA	14	00:00:00	04:36:00	00:38:43	09:02:00	00:14:00	00:29:00	00:17:26	04:04:00
ATL_ORCH	14	00:00:00	04:18:00	00:31:04	07:15:00	00:05:00	00:12:00	00:06:43	01:34:00
ATL_PIS	14	00:00:00	04:37:00	00:47:39	11:07:00	00:08:00	00:15:00	00:10:04	02:21:00
MONITORING	20	00:02:00	37:50:00	02:20:36	265:21:00	00:01:00	00:37:00	00:15:30	07:10:00

TGCC - Curie – Efficacité - Niveau 1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
Script_Output_v3.historicalC74	89	00:00:00	13:25:20	00:47:57	71:07:37	04:02:15	06:16:23	04:48:30	427:56:55
rebuild_fromWorkdir	152	00:00:00	11:39:09	00:22:00	55:43:27	01:07:59	02:47:53	01:18:59	200:05:49
create_ts.total	435	00:00:00	00:22:16	00:00:49	05:52:40	00:00:42	02:47:56	00:31:49	230:43:31
create_se	16	00:00:00	00:22:16	00:02:17	00:36:27	00:10:03	00:28:36	00:18:06	04:49:37
atlas_LDMZ	16	00:00:00	00:00:32	00:00:17	00:04:25	00:05:53	00:26:07	00:08:32	02:16:28
atlas_ORCA_LIM	16	00:00:00	00:00:32	00:00:16	00:04:20	00:07:28	00:33:37	00:10:32	02:48:31
atlas_ORCHIDEE	16	00:00:00	00:00:33	00:00:17	00:04:33	00:03:03	00:19:15	00:04:38	01:14:03
atlas_PISCES	16	00:00:00	00:00:31	00:00:16	00:04:13	00:03:34	00:15:57	00:05:05	01:21:19
monitoring	15	00:00:00	00:03:33	00:00:28	00:07:07	00:02:08	00:17:18	00:08:27	02:06:50
pack_debug	152	00:00:00	11:39:11	00:22:01	55:45:57	00:00:05	00:05:55	00:00:14	00:35:39
pack_output	152	00:00:00	09:06:19	00:17:13	43:36:21	00:07:13	01:57:36	00:10:16	26:01:28
pack_restart	152	00:00:00	11:39:10	00:22:00	55:43:12	00:01:31	00:06:57	00:02:17	05:47:22

=> Grand nombre de jobs = Grand temps d'attente

IDRIS – Vargas - Ulam – Efficacité - Niveau 1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
historivalV52	53	00:00:00	10:30:00	00:34:03	30:05:00	00:24:00	19:15:00	12:58:36	687:46:00
REBUILDARCH	155	00:00:00	43:55:00	02:31:13	390:39:00	00:59:00	09:44:00	03:35:10	555:51:00
TS	405	00:00:00	32:08:00	05:03:04	2045:45:00	00:02:00	20:08:00	03:06:24	1258:14:00
SE	14	03:37:00	32:47:00	14:42:47	205:59:00	00:40:00	01:24:00	00:48:51	11:24:00
ATL_LMDZ	14	00:00:00	04:30:00	00:33:39	07:51:00	00:08:00	00:26:00	00:14:30	03:23:00
ATL_OPA	14	00:00:00	04:36:00	00:38:43	09:02:00	00:14:00	00:29:00	00:17:26	04:04:00
ATL_ORCH	14	00:00:00	04:18:00	00:31:04	07:15:00	00:05:00	00:12:00	00:06:43	01:34:00
ATL_PIS	14	00:00:00	04:37:00	00:47:39	11:07:00	00:08:00	00:15:00	00:10:04	02:21:00
MONITORING	20	00:02:00	37:50:00	02:20:36	265:21:00	00:01:00	00:37:00	00:15:30	07:10:00

TGCC - Curie – Efficacité - Niveau 1

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
Script_Output_v3.historicalC74	89	00:00:00	13:25:20	00:47:57	71:07:37	04:02:15	06:16:23	04:48:30	427:56:55
rebuild_fromWorkdir	152	00:00:00	11:39:09	00:22:00	55:43:27	01:07:59	02:47:53	01:18:59	200:05:49
create_ts.total	435	00:00:00	00:22:16	00:00:49	05:52:40	00:00:42	02:47:56	00:31:49	230:43:31
create_se	16	00:00:00	00:22:16	00:02:17	00:36:27	00:10:03	00:28:36	00:18:06	04:49:37
atlas_LDMZ	16	00:00:00	00:00:32	00:00:17	00:04:25	00:05:53	00:26:07	00:08:32	02:16:28
atlas_ORCA_LIM	16	00:00:00	00:00:32	00:00:16	00:04:20	00:07:28	00:33:37	00:10:32	02:48:31
atlas_ORCHIDEE	16	00:00:00	00:00:33	00:00:17	00:04:33	00:03:03	00:19:15	00:04:38	01:14:03
atlas_PISCES	16	00:00:00	00:00:31	00:00:16	00:04:13	00:03:34	00:15:57	00:05:05	01:21:19
monitoring	15	00:00:00	00:03:33	00:00:28	00:07:07	00:02:08	00:17:18	00:08:27	02:06:50
pack_debug	152	00:00:00	11:39:11	00:22:01	55:45:57	00:00:05	00:05:55	00:00:14	00:35:39
pack_output	152	00:00:00	09:06:19	00:17:13	43:36:21	00:07:13	01:57:36	00:10:16	26:01:28
pack_restart	152	00:00:00	11:39:10	00:22:00	55:43:12	00:01:31	00:06:57	00:02:17	05:47:22

=> Grande diversité de jobs

Types	nb files	Attente				Execution			
		min	max	moy	sum	min	max	moy	sum
Script_Output_v3.historicalC74	89	00:00:00	13:25:20	00:47:57	71:07:37	04:02:15	06:16:23	04:18:30	427:56:55
create_ts.2D	16	00:00:00	00:00:34	00:00:14	00:03:38	00:11:14	01:08:44	00:34:49	09:17:05
create_ts.3D	16	00:00:00	00:00:30	00:00:16	00:04:11	00:03:25	00:28:01	00:15:59	04:15:41
create_ts.Chunck2D.ATM.Post_1D_histday	16	00:00:00	00:00:34	00:00:17	00:04:30	00:23:39	02:10:31	01:39:29	26:31:38
create_ts.Chunck2D.ATM.Post_1D_histdayCOSP	2	00:00:29	00:00:33	00:00:31	00:01:02	00:23:01	00:26:45	00:24:53	00:49:46
create_ts.Chunck2D.ATM.Post_3H_histhf3h	16	00:00:00	00:00:33	00:00:16	00:04:12	01:11:36	01:52:29	01:31:59	24:31:50
create_ts.Chunck2D.ATM.Post_3H_histhf3hm	16	00:00:00	00:00:32	00:00:17	00:04:36	00:23:27	00:56:20	00:35:26	09:26:55
create_ts.Chunck2D.ATM.Post_HF_histhf	15	00:00:00	00:00:33	00:00:15	00:03:51	01:55:42	02:47:56	02:20:35	35:08:44
create_ts.Chunck2D.ICE.Post_1D_icemod	16	00:00:00	00:00:31	00:00:16	00:04:17	00:00:42	00:13:52	00:07:59	02:07:44
create_ts.Chunck2D.OCE.Post_1D_grid_T	16	00:00:00	00:00:31	00:00:16	00:04:23	00:15:01	00:36:23	00:25:44	06:51:46
create_ts.Chunck2D.SRF.Post_HF_sechiba_out_2	16	00:00:00	00:00:32	00:00:17	00:04:29	00:03:42	00:10:47	00:06:44	01:47:47
create_ts.Chunck3D.ATM.Post_1D_histday	16	00:00:00	00:01:42	00:00:21	00:05:29	01:00:35	02:00:18	01:29:06	23:45:34
create_ts.Chunck3D.ATM.Post_1D_histdayCOSP	2	00:00:22	00:00:27	00:00:25	00:00:49	00:39:45	00:55:37	00:47:41	01:35:22
create_ts.Chunck3D.ATM.Post_1D_histdayNMC	16	00:00:00	00:02:55	00:00:27	00:07:04	00:05:24	00:12:12	00:10:21	02:45:31
create_ts.Chunck3D.ATM.Post_1M_histmth	16	00:00:00	00:00:30	00:00:15	00:04:05	00:10:18	01:03:45	00:34:49	09:16:59
create_ts.Chunck3D.ATM.Post_1M_histmthCOSP	16	00:00:00	00:00:31	00:00:17	00:04:28	00:00:50	00:07:22	00:04:12	01:07:10
create_ts.Chunck3D.ATM.Post_1M_histmthNMC	16	00:00:00	00:01:06	00:00:19	00:04:58	00:02:02	00:19:27	00:09:22	02:29:56
create_ts.Chunck3D.ATM.Post_HF_histhf	16	00:00:00	00:05:08	00:00:34	00:09:08	01:24:05	01:46:59	01:35:52	25:33:59
create_ts.Chunck3D.ATM.Post_HF_histhfNMC	16	00:00:00	00:05:07	00:00:40	00:10:42	00:07:55	00:17:49	00:13:11	03:30:50
create_ts.Chunck3D.MBG.Post_1M_dbio_T	16	00:00:00	00:22:16	00:02:17	00:36:33	00:04:53	00:40:03	00:20:12	05:23:15
create_ts.Chunck3D.MBG.Post_1M_diad_T	16	00:00:00	00:21:44	00:02:15	00:36:07	00:05:32	00:44:49	00:22:59	06:07:39
create_ts.Chunck3D.MBG.Post_1M_ptrc_T	16	00:00:00	00:20:38	00:02:12	00:35:06	00:09:52	01:08:49	00:35:40	09:30:42
create_ts.Chunck3D.OCE.Post_1D_grid_T	16	00:00:00	00:12:28	00:01:24	00:22:22	00:12:33	00:27:02	00:17:18	04:36:51
create_ts.Chunck3D.OCE.Post_1D_grid_U	16	00:00:00	00:13:33	00:01:28	00:23:21	00:03:38	00:08:37	00:06:33	01:44:46
create_ts.Chunck3D.OCE.Post_1D_grid_V	16	00:00:00	00:13:33	00:01:33	00:24:44	00:03:58	00:08:34	00:06:42	01:47:07
create_ts.Chunck3D.OCE.Post_1M_grid_T	16	00:00:00	00:06:56	00:00:57	00:15:06	00:02:01	00:16:58	00:09:41	02:34:55
create_ts.Chunck3D.OCE.Post_1M_grid_U	16	00:00:00	00:09:11	00:01:11	00:18:51	00:01:03	00:10:53	00:05:56	01:34:54
create_ts.Chunck3D.OCE.Post_1M_grid_V	16	00:00:00	00:11:23	00:01:19	00:20:59	00:01:09	00:10:46	00:05:46	01:32:11
create_ts.Chunck3D.OCE.Post_1M_grid_W	16	00:00:00	00:11:55	00:01:22	00:21:53	00:03:38	00:22:06	00:13:13	03:31:35
create_ts.Chunck3D.SRF.Post_HF_sechiba_out_2	16	00:00:00	00:05:44	00:00:44	00:11:46	00:03:12	00:06:52	00:05:20	01:25:19
create_ts.total	435	00:00:00	00:22:16	00:00:49	05:52:40	00:00:42	02:47:56	00:31:49	230:43:31
atlas_LDMZ	16	00:00:00	00:00:32	00:00:17	00:04:25	00:05:53	00:26:07	00:08:32	02:16:28
atlas_ORCA_LIM	16	00:00:00	00:00:32	00:00:16	00:04:20	00:07:28	00:33:37	00:10:32	02:48:31
atlas_ORCHIDEE	16	00:00:00	00:00:33	00:00:17	00:04:33	00:03:03	00:19:15	00:04:38	01:14:03
atlas_PISCES	16	00:00:00	00:00:31	00:00:16	00:04:13	00:03:34	00:15:57	00:05:05	01:21:19
create_se	16	00:00:00	00:22:16	00:02:17	00:36:27	00:10:03	00:28:36	00:18:06	04:49:37
monitoring	15	00:00:00	00:03:33	00:00:28	00:07:07	00:02:08	00:17:18	00:08:27	02:06:50
pack_debug	152	00:00:00	11:39:11	00:22:01	55:45:57	00:00:05	00:05:55	00:00:14	00:35:39
pack_output	152	00:00:00	09:06:19	00:17:13	43:36:21	00:07:13	01:57:36	00:10:16	26:01:28
pack_restart	152	00:00:00	11:39:10	00:22:00	55:43:12	00:01:31	00:06:57	00:02:17	05:47:22
rebuild_fromWorkdir	152	00:00:00	11:39:09	00:22:00	55:43:27	01:07:59	02:47:53	01:18:59	200:05:49

=> Grande diversité de jobs

TGCC - Curie – Efficacité - Niveau 2 – 10 ans simu

Action	nb de flux	minimum	maximum	moyenne	depuis-vers
+ cdo	731	0.001323	9.900989	0.193490	scratch-->scratch
+ Dods_Cp	27	17.785886	13704.762262	1852.765871	store-->store
+ Dods_Cp	5	0.378699	10.384535	6.412783	work-->work
+ Get_Dir	120	5.904830	35.394479	29.949193	scratch-->scratch
+ Get	33	0.203450	164.161378	104.619141	store-->scratch
+ Get	132	0.008491	1.608455	0.378252	work-->scratch
+ ncap2	15	9.902024	116.187232	49.440836	scratch-->scratch
+ ncatted	389	0.002265	1241.586538	69.710253	scratch-->scratch
+ ncks	731	0.000201	0.027125	0.016693	scratch-->scratch
+ ncra	180	176.991150	3087.058423	1230.243933	scratch-->scratch
+ ncrcat	624	0.003462	239.251611	51.698683	scratch-->scratch
+ Put_Out	192	0.001535	364.312728	139.101301	scratch-->scratch
+ Put_Out	103	0.001326	387.559928	82.646944	scratch-->store
+ rebuild	192	0.000181	100.775193	25.591031	scratch-->scratch
+ tar	20	18.487740	90.130079	51.011529	scratch-->scratch

Type action	Temps cumule	pourcentage	Actions correspondantes
importation	4747301	37.94	/Get/Get_Dir
traitement	6400045	51.15	/cdo/ncap2/ncatted/ncks/ncra/ncrcat/rebuild/tar
exportation	1362735	10.89	/Dods_Cp/Put_Out

=> 50% copies fichiers

=> 50% traitement des fichiers

TGCC - Curie – Efficacité Niveau 2 – 10 ans simu

Action	nb de flux	minimum	maximum	moyenne	depuis-vers
+ cdo	731	0.001323	9.900989	0.193490	scratch-->scratch
+ Dods_Cp	27	17.785886	13704.762262	1852.765871	store-->store
+ Dods_Cp	5	0.378699	10.384535	6.412783	work-->work
+ Get_Dir	120	5.904830	35.394479	29.949193	scratch-->scratch
+ Get	33	0.203450	164.161378	104.619141	store-->scratch
+ Get	132	0.008491	1.608455	0.378252	work-->scratch
+ ncap2	15	9.902024	116.187232	49.440836	scratch-->scratch
+ ncatted	389	0.002265	1241.586538	69.710253	scratch-->scratch
+ ncks	731	0.000201	0.027125	0.016693	scratch-->scratch
+ ncra	180	176.991150	3087.058423	1230.243933	scratch-->scratch
+ ncrcat	624	0.003462	239.251611	51.698683	scratch-->scratch
+ Put_Out	192	0.001535	364.312728	139.181001	scratch-->scratch
+ Put_Out	103	0.001326	387.559928	82.646944	scratch-->store
+ rebuild	192	0.000181	100.775193	25.591031	scratch-->scratch
+ tar	20	18.487740	90.130079	51.011529	scratch-->scratch

Type action	Temps cumule	pourcentage	Actions correspondantes
importation	4747301	37.94	/Get/Get_Dir
traitement	6400045	51.15	/cdo/ncap2/ncatted/ncks/ncra/ncrcat/rebuild/tar
exportation	1362735	10.89	/Dods_Cp/Put_Out

Débit théorique :
 - 400MB/s pour l'écriture d'un fichier sur scratch

TGCC - Curie – Efficacité - Niveau 2 – 10 ans simu

Action	nb de flux	minimum	maximum	moyenne	depuis-vers
+ cdo	731	0.001323	9.900989	0.193490	scratch-->scratch
+ Dods_Cp	27	17.785886	13704.762262	1852.765871	store-->store
+ Dods_Cp	5	0.378699	10.384535	6.412783	work-->work
+ Get_Dir	120	5.904830	35.394479	29.949193	scratch-->scratch
+ Get	33	0.203450	164.161378	104.619141	store-->scratch
+ Get	132	0.008491	1.608455	0.378252	work-->scratch
+ ncap2	15	9.902024	116.187232	49.440836	scratch-->scratch
+ ncatted	389	0.002265	1241.586538	69.710253	scratch-->scratch
+ ncks	731	0.000201	0.027125	0.016693	scratch-->scratch
+ ncra	180	176.991150	3087.058423	1230.243933	scratch-->scratch
+ ncrcat	624	0.003462	239.251611	51.698683	scratch-->scratch
+ Put_Out	192	0.001535	364.312728	139.101301	scratch-->scratch
+ Put_Out	103	0.001326	387.559928	82.646944	scratch-->store
+ rebuild	192	0.000181	100.775193	25.591031	scratch-->scratch
+ tar	20	18.487740	90.130079	51.011529	scratch-->scratch

Type action	Temps cumule	pourcentage	Actions correspondantes
importation	4747301	37.94	/Get/Get_Dir
traitement	6400045	51.15	/cdo/ncap2/ncatted/ncks/ncra/ncrcat/rebuild/tar
exportation	1362735	10.89	/Dods_Cp/Put_Out

=> A faire : pourcentage/type de job ?

Remarques ?
Pistes d'analyse ?