

**Power
Week**

Université IBM i 2019



22 et 23 mai

IBM Client Center Paris

S32 – IBM i et la bonne utilisation des métriques

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AGENDA

- LA GESTION DES MÉTRIQUES
 - LPAR2RRD et les partitions
 - STOR2RRD et le stockage
- CAS D'APPLICATIONS
 - Optimisations des sous-systemes et de la performance
 - Sizing d'une solution de disque externe

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LA GESTION DES METRIQUES

LPAR2RRD et STOR2RRD

- Outils libres de monitoring et de reporting des performances pour les serveurs, le stockage, le SAN et le LAN
- Open source sous License GPL v3
- Service de support professionnel optionnel
- Le support inclus les éditions entreprise des outils qui ont des fonctions complémentaires
- Les données sont collectées sur les périphériques et stockées dans les outils
- Fonctionnent sur UNIX/Linux ou bien sur une appliance VMWare (Linux)

- **Monitoring de performance des serveurs:**
 - IBM Power System
 - VM Ware
 - Solaris
 - Xen/Citrix
 - KVM/oVirt
 - Hitachi Compute Blade
 - Hyper-v
 - Linux
- **Statistiques historiques et quasi-temps réel**
- **Agent-less**
- **Agent optionnel pour métriques complémentaires (AIX, VIOS, Linux, IBM i, Solaris et Windows)**

- **Monitoring de performance des systèmes de stockage, SAN et LAN:**
 - IBM
 - Hitachi
 - Dell EMC
 - HPE
 - Netapp
 - Purestorage
 - Brocade
 - ...
- **Statistiques historiques et quasi-temps réel**

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DÉMO

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CAS D'APPLICATIONS

OPTIMISATIONS DES SOUS-SYSTEMES ET DE LA PERFORMANCE

- ANALYSE DE PERFORMANCES
- TUNING
- SIZING POUR EVOLUTION D'INFRASTRUCTURE

OPTIMISATIONS DES SOUS-SYSTEMES ET DE LA PERFORMANCE

- Analyse de performances
 - Préparation des collectes de performances
 - Gestion et préparation des fichiers de collectes *mgtcol
 - Analyse et exploitation des fichiers (idoctor, performance navigator)
 - préconisations

PRÉPARATION DES COLLECTES DE PERFORMANCES 1/2

Configurer collecte de perf (CFGPFRCOL)

Indiquez vos choix, puis appuyez sur ENTREE.

Intervalle par défaut	<u>15,00</u>	*SAME, .25, .50, 1.0, 5.0...
Bibliothèque de collecte	<u>QPFRRDATA</u>	Nom, *SAME
Profil de collecte par défaut	<u>*STANDARDP</u>	*SAME, *MINIMUM, *STANDARD...
Temps de cycle	<u>000000</u>	Heure, *SAME
Intervalle de cycles	<u>24</u>	*SAME, 1-24 heures
Période de rétention *MGTCOL:		
Nombre d'unités	<u>00120</u>	*SAME, 1-720, *PERM
Unité de temps	<u>*HOURS</u>	*HOURS, *DAYS
Activer moniteur système	<u>*NO</u>	*SAME, *YES, *NO
Créer fichiers BDD standard	<u>*YES</u>	*SAME, *YES, *NO
Créer données récapit standard	<u>*NONE</u>	*SAME, *NONE, *ALL...
Modifier biblio PM Agent	<u>*SAME</u>	*SAME, *YES, *NO

PRÉPARATION DES COLLECTES DE PERFORMANCES 2/2

Autres paramètres

```
Conserv données std (jours) . . . 0000000010   Nombre, *SAME, *PERM
Rétention données moniteur sys 0000000002   Nombre, *SAME, *PERM
```

Indiquez vos choix, puis appuyez sur ENTREE.

Catégories moniteur système:

```
Catégories à traiter . . . . . *SYSLVL       Nom, *SAME, *SYSMONDFT...
Intervalle temps (en minutes) 01,00       0.25, 0.5, 1, 5
```

```
Catégories à traiter . . . . . *POOL        Nom, *APPN, *CMNBASE...
Intervalle temps (en minutes) 01,00       0.25, 0.5, 1, 5
```

```
Catégories à traiter . . . . . *DISK       Nom, *APPN, *CMNBASE...
Intervalle temps (en minutes) 01,00       0.25, 0.5, 1, 5
```

```
Catégories à traiter . . . . . *JOBMI      Nom, *APPN, *CMNBASE...
Intervalle temps (en minutes) 01,00       0.25, 0.5, 1, 5
```

```
Catégories à traiter . . . . . *JOBOS     Nom, *APPN, *CMNBASE...
Intervalle temps (en minutes) 01,00       0.25, 0.5, 1, 5
```

GESTION ET PRÉPARATION DES FICHIERS DE COLLECTES *MGTCOL

Créer données de performances (CRTPFRDTA)

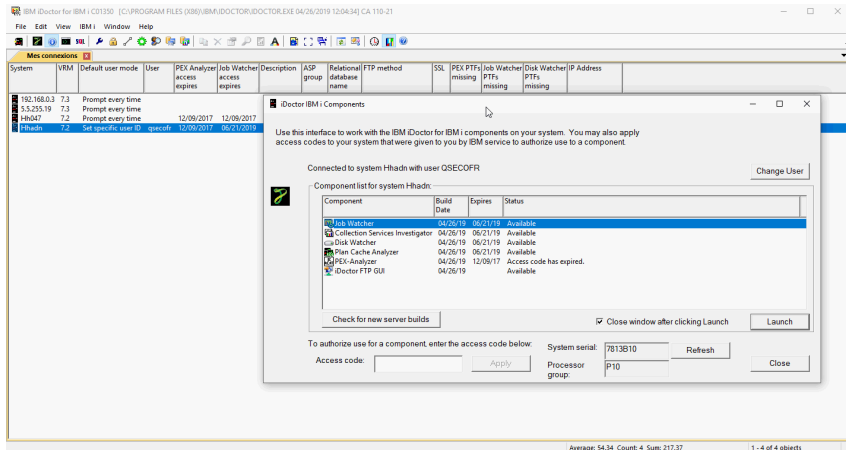
Indiquez vos choix, puis appuyez sur ENTREE.

```
Collecte d'origine . . . . . MROD190314 Nom, *ACTIVE, *SELECT
  Biblio . . . . . collectes Nom
Membre de destination . . . . . *FROMMGTCOL Nom, *FROMMGTCOL
Bibliothèque de destination . . . . . collectes2 Nom, *FROMMGTCOL
Texte 'descriptif' . . . . . *SAME
-----
Catégories à traiter . . . . . *FROMMGTCOL Nom, *FROMMGTCOL, *APPN...
+ si autres valeurs
-----
Intervalle temps (en minutes) . *FROMMGTCOL *FROMMGTCOL, 0.25, 0.5, 1...
Créer données récapit standard *NONE *NONE, *ALL, *PFRSUM, *SYSMON
-----
Date et heure de début:
Date de début . . . . . *FROMMGTCOL Date, *FROMMGTCOL
Heure de début . . . . . Heure
```

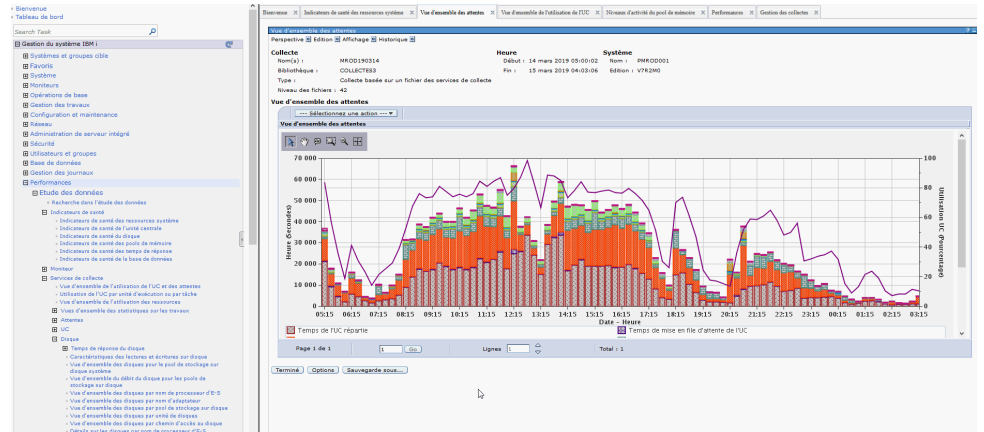
```
Intervalle temps (en minutes) . *FROMMGTCOL
*FROMMGTCOL
0.25
0.5
1
5
15
30
60
```

ANALYSE ET EXPLOITATION DES FICHIERS

IDOCTOR

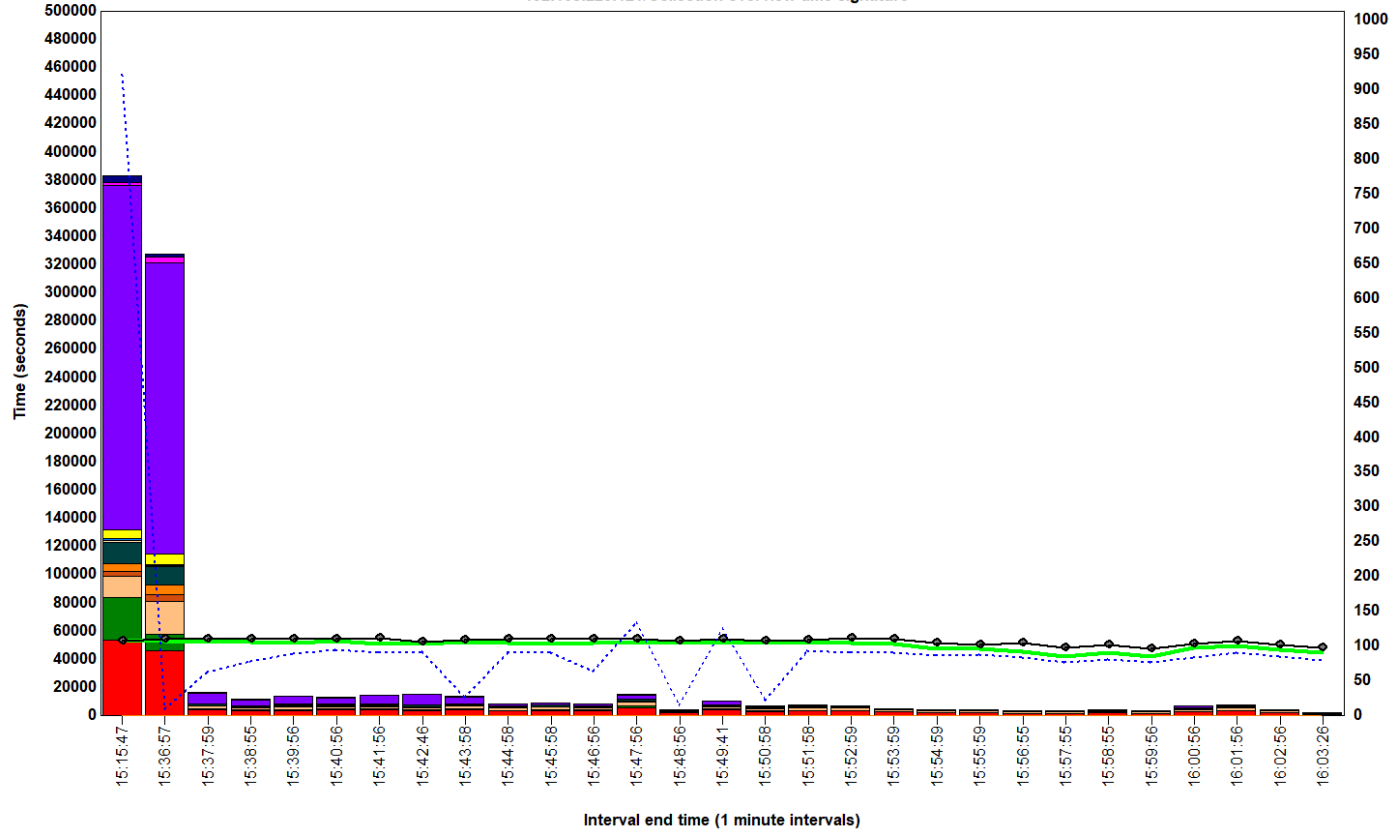


PERFORMANCE NAVIGATOR FOR I



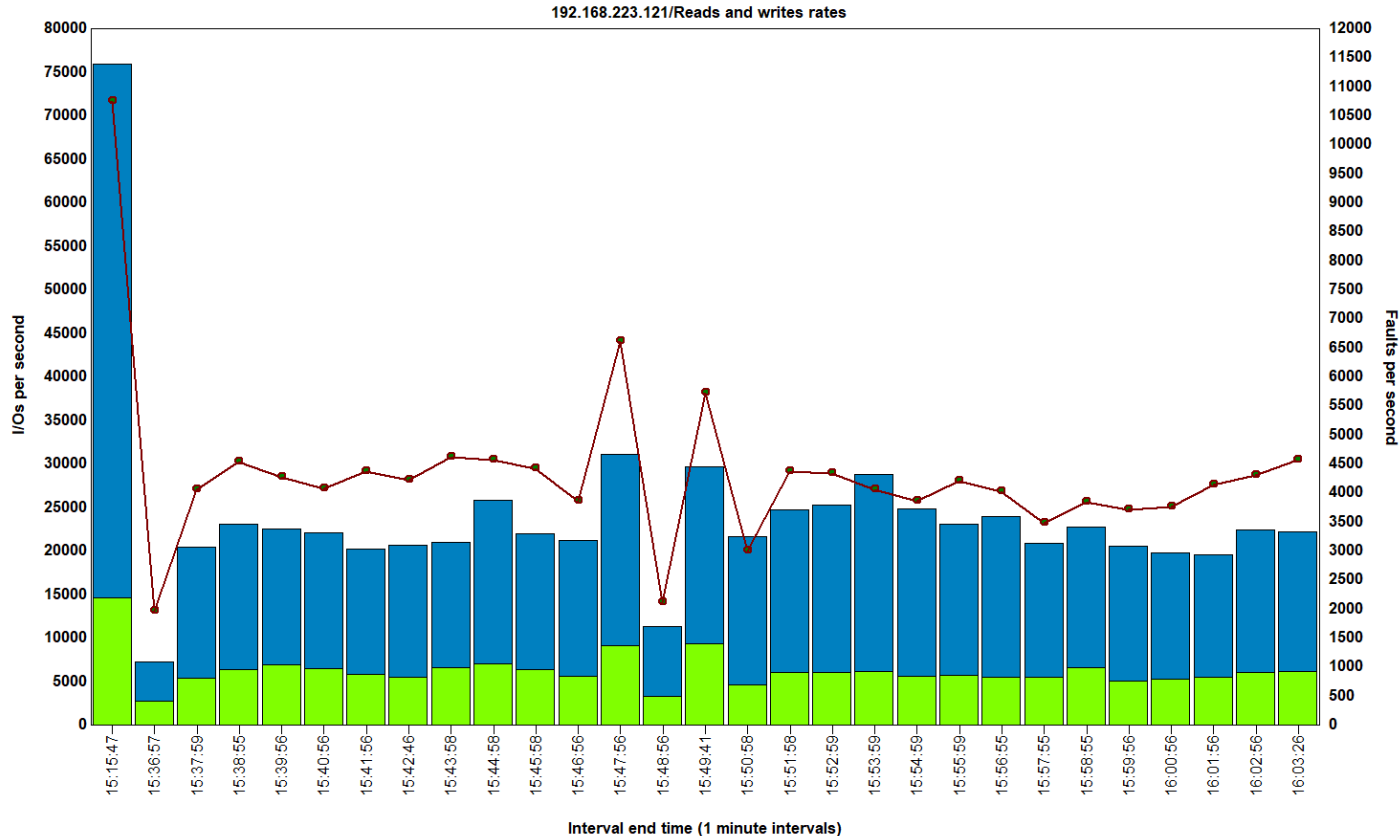
ANALYSE ET EXPLOITATION DES FICHIERS

192.168.223.121/Collection overview time signature



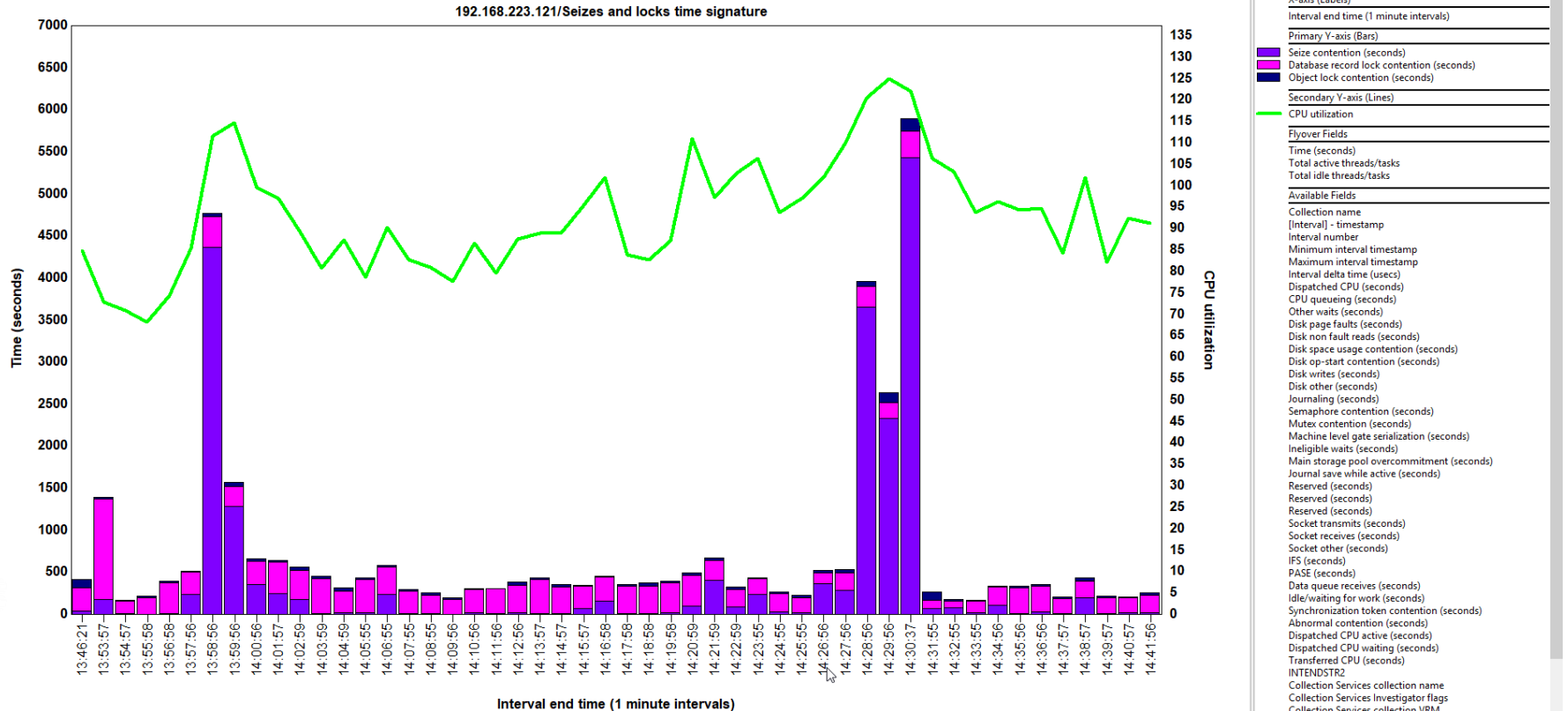
X-axis (Labels)	
Interval end time (1 minute intervals)	
Primary Y-axis (Bars)	
Dispatched CPU (seconds)	
Transferred CPU (seconds)	
CPU queuing (seconds)	
Disk page faults (seconds)	
Disk non fault reads (seconds)	
Disk space usage contention (seconds)	
Disk writes (seconds)	
Disk other (seconds)	
Journaling (seconds)	
Machine level gate serialization (seconds)	
Seize contention (seconds)	
Database record lock contention (seconds)	
Object lock contention (seconds)	
Main storage pool overcommitment (seconds)	
Abnormal contention (seconds)	
Synchronization token contention (seconds)	
Secondary Y-axis (Lines)	
Average partition CPU utilization	
Maximum partition CPU utilization	
Average collection CPU utilization	
VCPU delays a percentage of Dispatched CPU	
Flyover Fields	
Time (seconds)	
Total active threads/tasks	
Total idle threads/tasks	
Available Fields	
Collection name	
[Interval] - timestamp	
Interval number	
Minimum interval timestamp	
Maximum interval timestamp	
Interval delta time (usecs)	
Other waits (seconds)	
Y1: Disk op-start contention (seconds)	
Semaphore contention (seconds)	
Mutex contention (seconds)	
Y1: Ineligible waits (seconds)	
Y1: Journal save while active (seconds)	
Reserved (seconds)	
Reserved (seconds)	
Reserved (seconds)	
Socket transmits (seconds)	
Socket receives (seconds)	
Socket other (seconds)	
IFS (seconds)	
PASE (seconds)	
Data queue receives (seconds)	
Idle/waiting for work (seconds)	
Dispatched CPU active (seconds)	
Dispatched CPU sharing (seconds)	
Dispatched CPU counts	
Dispatched CPU counts per second (thousands)	
Dispatched CPU counts per second (thousands)	

ANALYSE ET EXPLOITATION DES FICHIERS



X-axis (Labels)	
[interval] - timestamp	Interval end time (1 minute intervals)
Primary Y-axis (Bars)	
Reads per second	Writes per second
Secondary Y-axis (Lines)	
Faults per second	
Flyover Fields	
Total DASD reads	Total DASD writes
Available Fields	
Collection name	[interval] - timestamp
Interval number	Interval number
Minimum interval timestamp	Minimum interval timestamp
Maximum interval timestamp	Maximum interval timestamp
Time (seconds)	Time (seconds)
Interval delta time (usecs)	Interval delta time (usecs)
Sync DB reads/second	Sync DB reads/second
Sync non-DB reads/second	Sync non-DB reads/second
Sync DB writes/second	Sync DB writes/second
Sync non-DB writes/second	Sync non-DB writes/second
Asynchronous DB reads/second	Asynchronous DB reads/second
Asynchronous non-DB reads/second	Asynchronous non-DB reads/second
Asynchronous DB writes/second	Asynchronous DB writes/second
I/O pending faults per second	I/O pending faults per second
Storage allocated (gigabytes)	Storage allocated (gigabytes)
Storage deallocated (gigabytes)	Storage deallocated (gigabytes)
Net storage allocated (gigabytes)	Net storage allocated (gigabytes)
Asynchronous non-DB writes/second	Asynchronous non-DB writes/second
Synchronous percent of total I/O	Synchronous percent of total I/O
Sync DB reads	Sync DB reads
Sync non-DB reads	Sync non-DB reads
Sync DB writes	Sync DB writes
Sync non-DB writes	Sync non-DB writes
Asynchronous DB reads	Asynchronous DB reads
Asynchronous non-DB reads	Asynchronous non-DB reads
Asynchronous DB writes	Asynchronous DB writes
Asynchronous non-DB writes	Asynchronous non-DB writes
Page faults	Page faults
I/O pending page faults	I/O pending page faults
Total pages allocated	Total pages allocated
Total pages deallocated	Total pages deallocated
Net pages allocated (thousands)	Net pages allocated (thousands)
Total pages allocated (millions)	Total pages allocated (millions)
Total pages deallocated (millions)	Total pages deallocated (millions)
Net pages allocated (millions)	Net pages allocated (millions)
Total synchronous reads	Total synchronous reads
Average sync read response time (milliseconds)	Average sync read response time (milliseconds)
Total synchronous writes	Total synchronous writes
Average sync write response time (ms)	Average sync write response time (ms)
Active to wait transitions per second	Active to wait transitions per second
Wait to ineligible transitions per second	Wait to ineligible transitions per second
Active to ineligible transitions per second	Active to ineligible transitions per second
Page frames requested (thousands)	Page frames requested (thousands)
Page frames released (thousands)	Page frames released (thousands)

ANALYSE ET EXPLOITATION DES FICHIERS



ANALYSE ET EXPLOITATION DES FICHIERS

Threads/Tasks: Exclude jobs not in current wait Sort and filter by: 15 - Seize contention

Job name/user/number: thread ID	Current wait duration (usecs)	Current or last blocking bucket	Current wait enum and description	Dispatched CPU (seconds)	Dispatched CPU counts per second	CPU queueing (seconds)	CPU queueing counts per second	Reserved (seconds)	Reserved counts per second	Other waits (seconds)	Other waits counts per second	Disk page faults (seconds)	Disk page faults counts per second	Disk non fault reads (seconds)	Disk non fault reads counts per second	Disk space usage contention (seconds)	Disk space usage contention counts per second	Disk (con sec)
FWWORKER / FCAPRF140 / 927219: 0000000F	269,911	15	(102) SEIZE: SHARED	.2825	.0774	.1251	.0774	4.5460	.0774	0	0	0	0	0	0	0	0	0
FWWORKER / FCAPRF140 / 917983: 00000001C	305,302	15	(102) SEIZE: SHARED	.2616	.0850	.0990	.0850	4.5711	.0850	0	0	0	0	0	0	0	0	0
FWWORKER / FCAPRF140 / 932266: 00000000F	258,785	15	(102) SEIZE: SHARED	.2983	.0729	.1041	.0729	4.5551	.0729	0	0	0	0	0	0	0	0	0
FWWORKER / FCAPRF140 / 907173: 000000003	327,951	15	(102) SEIZE: SHARED	.2989	.0748	.0920	.0748	4.2466	.0748	0	0	.0084	4.6375	.0079	4.6375	0	0	0
FWWORKER / FCAPRF140 / 889152: 000000007	359,615	15	(102) SEIZE: SHARED	.2574	.0971	.0826	.0971	4.2228	.0971	0	0	0	0	0	0	0	0	0
FWWORKER / FCAPRF140 / 946178: 00000000F	368,769	12	(353) SEMAPHORE WAIT	.2164	.0644	.1312	.0644	4.6147	.0644	0	0	.0376	1.6541	.0046	4.9623	0	0	0
FWWORKER / FCAPRF140 / 905358: 000000004	336,603	15	(102) SEIZE: SHARED	.1669	.0671	.1245	.0671	4.3396	.0671	0	0	0	0	0	0	0	0	0
FWWORKER / FCAPRF140 / 908941: 00000001E	311,829	15	(102) SEIZE: SHARED	.1783	.0723	.1016	.0723	4.3502	.0723	0	0	0	0	.0072	4.6300	0	0	0
FWWORKER / FCAPRF140 / 934063: 000000004	257,083	15	(102) SEIZE: SHARED	.5359	.0800	.0902	.0800	4.3339	.0800	0	0	0	0	0	0	.0000	1.2400	0
FWWORKER / FCAPRF140 / 935583: 00000000A	250,427	15	(102) SEIZE: SHARED	.7479	.0855	.1293	.0855	4.0883	.0886	0	0	0	0	0	0	0	0	0
QZRCRSVS / QUSER / 958704: 000000010	225,468	15	(102) SEIZE: SHARED	.4452	.1035	.0657	.1035	4.4583	.1057	0	0	0	0	0	0	0	0	0
TR_W11 / PLE778Q / 886155: 000000002	369,834	15	(100) SEIZE: EXCLUSIVE	.2251	.0328	.2249	.0328	4.1090	.0330	.0027	2.2795	.0642	.5699	0	0	.0000	4.5589	0
QZRCRSVS / QUSER / 911746: 000000005	299,827	25	(214) COMM/SOCKETS: SHORT WAIT FOR TCP RECEIVE	.5479	.1031	.0668	.1031	4.0242	.1054	0	0	0	0	0	0	.0049	2.3194	0
FWWORKER / FCAPRF140 / 907166: 000000004	344,036	12	(353) SEMAPHORE WAIT	.2720	.0874	.1338	.0874	4.2248	.0874	0	0	0	0	0	0	0	0	0
FWWORKER / FCAPRF140 / 911816: 000000006	313,681	15	(102) SEIZE: SHARED	.4341	.0828	.0925	.0828	4.1122	.0875	0	0	0	0	0	0	0	0	0
FWWORKER / FCAPRF140 / 927216: 000000021	264,698	15	(102) SEIZE: SHARED	.2328	.0762	.1009	.0762	4.6197	.0762	0	0	.0113	2.4767	0	0	0	0	0
T012011S3 / ECHASTAN / 109096: 00000001B	11,778	15	(100) SEIZE: EXCLUSIVE	.5773	.0179	.2372	.0179	4.2165	.0179	0	0	.0941	3.144	0	0	.0210	.5031	0
MAJ_TVJ / BMASSON / 089145: 000000015	2,317	15	(102) SEIZE: SHARED	.3814	.0356	.2562	.0356	4.3852	.0356	0	0	.9655	.0469	.0366	.7175	0	0	0
T245036A / LVERNIER / 949571: 00000000E	236,128	15	(102) SEIZE: SHARED	.3132	.0150	.3354	.0150	4.3199	.0150	0	0	.0637	.4516	.0228	4.9680	.0763	1.6560	0
T474029 / SIB474ADV2 / 109017: 00000000A	64,169	15	(102) SEIZE: SHARED	.3026	.0136	.3864	.0136	4.3689	.0136	0	0	.0535	.2975	0	0	0	0	0
T062030 / GW062ACS5 / 107971: 00000001C	89,526	15	(102) SEIZE: SHARED	.3938	.0142	.3334	.0142	4.3265	.0142	0	0	.0504	.4211	.0095	5.0536	0	0	0
H910251A / CPASQUIERS / 101883: 00000001E	3,954	2	(167) MAINSTORE/LOGICAL-DASD-IO: DASD WRITE	.3311	.0138	.3602	.0137	4.3649	.0137	0	0	.0780	.2974	.0049	5.0560	.0006	5.0560	0
M221002A / LREGNAULT / 020945: 00000001F	23,832	15	(100) SEIZE: EXCLUSIVE	.2324	.0128	.4022	.0128	4.3690	.0128	0	0	.0555	.3336	.0250	2.5017	.0109	1.0007	0
T161003 / OM161VEN01 / 943294: 00000001F	246,616	15	(102) SEIZE: SHARED	1.3140	.0528	.1149	.0528	3.3552	.0545	0	0	.2684	.2482	.1046	.4137	.0055	.1986	0
T038176D / ABOUDIN / 081077: 000000095	29,406	15	(100) SEIZE: EXCLUSIVE	.3999	.0119	.3763	.0119	4.1626	.0119	0	0	.0580	.2744	.0158	2.4693	0	0	0
T000019A / CIOASSARD / 109011: 000000022	2,829	5	(161) MAINSTORE/LOGICAL-DASD-IO: PAGE FAULT	.3687	.0156	.2581	.0156	4.4311	.0156	0	0	.1189	.2975	.0129	2.5289	.0144	.4598	0
T910143A / MTCOURMAN / 096409: 000000025	632,137	30	(340) IDLE WAIT, MI RESPONSE QUEUE WAIT	.4725	.0271	.1489	.0271	4.4277	.0271	0	0	.6104	.0673	.0161	2.5245	.0001	2.5245	0
T657002A / MPSY27 / 109073: 000000014	346,037	30	(340) IDLE WAIT, MI RESPONSE QUEUE WAIT	.5569	.0169	.2580	.0169	4.2323	.0169	.0263	5.0471	.0835	4.588	.0176	5.0471	.0151	.3605	0
T565003 / MR924PR01 / 109078: 00000001B	360,989	30	(340) IDLE WAIT, MI RESPONSE QUEUE WAIT	.4574	.0186	.2900	.0186	4.2001	.0186	.0002	5.0474	.0902	4.206	.0062	5.0474	.0112	.5465	0
M09000251 / JREMOUSSEN / 915820: 000000026	3,017	15	(100) SEIZE: EXCLUSIVE	.3579	.0126	.3517	.0126	3.9299	.0126	0	0	.0894	.2577	.0264	2.3197	.0110	1.5465	0
H327233R / SMAILLET / 072119: 000000053	43,684	15	(100) SEIZE: EXCLUSIVE	.5021	.0112	.3381	.0112	4.0902	.0112	0	0	.1029	.2241	.0067	2.4652	.0168	1.2326	0
T219084A / AELIARD / 109077: 000000005	470,760	30	(340) IDLE WAIT, MI RESPONSE QUEUE WAIT	.4632	.0188	.2505	.0188	4.3335	.0188	.0008	1.6824	.0614	4.588	.0048	5.0471	.0097	1.2618	0
T095020A / FCSCHER / 035088: 000000057	6,216	9	(168) MAINSTORE/LOGICAL-DASD-IO: DASD WRITE IO PENDING	.4086	.0112	.4101	.0112	4.1391	.0112	0	0	.0577	.3099	.0001	4.9577	.0000	4.9577	0
T234007A / PS234ACS2 / 083159: 000000010	4,599	15	(100) SEIZE: EXCLUSIVE	.6448	.0123	.3750	.0123	3.9625	.0123	0	0	.1183	.2491	.0189	2.4911	.0000	4.9823	0

TUNING 1/4

Gestion de l'état du système PMROD001

10/04/19 14:46:53

```
% UC utilisée . . . . . : 108,6 ASP système . . . . . : 20433 G
Intervalle . . . . . : 00:22:16 % ASP système utilisé . : 41,9533
Travaux connus du syst . : 31684 Mémoire secondaire totale: 20433 G
% adresses permanentes . : 1,441 Mémoire temporaire
% adresses temporaires . : 74,188 utilisée . . . . . : 578122 M
Mém max temp utilisée . : 589756 M
```

Pool syst	Taille pool	Taille réserv	Act Max	-Paging Taux	BD-- Pages	--Non-BD--- Taux	Act-> Pages	Att Inelg	Att Inelg	Act-> Inelg
1	<u>16896_0</u>	6745,0	++++	0,0	0,0	1,2	4,1	13088	0,0	0,0
2	<u>177408_0</u>	28,4	<u>2540</u>	63,3	5332	559,7	2369	85105	0,0	0,0
3	<u>5632_0</u>	0,0	<u>1408</u>	4,0	32,0	7,8	14,3	481,3	0,0	0,0
4	<u>28160_0</u>	<.1	<u>5011</u>	967,9	6735	3609	8325	19849	0,0	0,0
5	<u>5632_0</u>	0,0	<u>350</u>	0,3	62,4	0,3	0,4	++++	0,0	0,0
6	<u>2816_0</u>	0,0	<u>224</u>	0,7	13,4	12,8	24,5	4265	0,0	0,0
7	<u>14080_0</u>	0,0	<u>679</u>	66,3	145,7	47,9	64,2	3244	0,0	0,0
8	<u>2816_0</u>	0,0	<u>160</u>	224,9	1956	90,5	141,8	377,0	0,0	0,0
9	<u>28160_0</u>	1,8	<u>5000</u>	8,1	93,2	7,4	15,1	19733	0,0	0,0

Fin

Gestion des pools partagés

Système: PMROD001

Taille de la mémoire

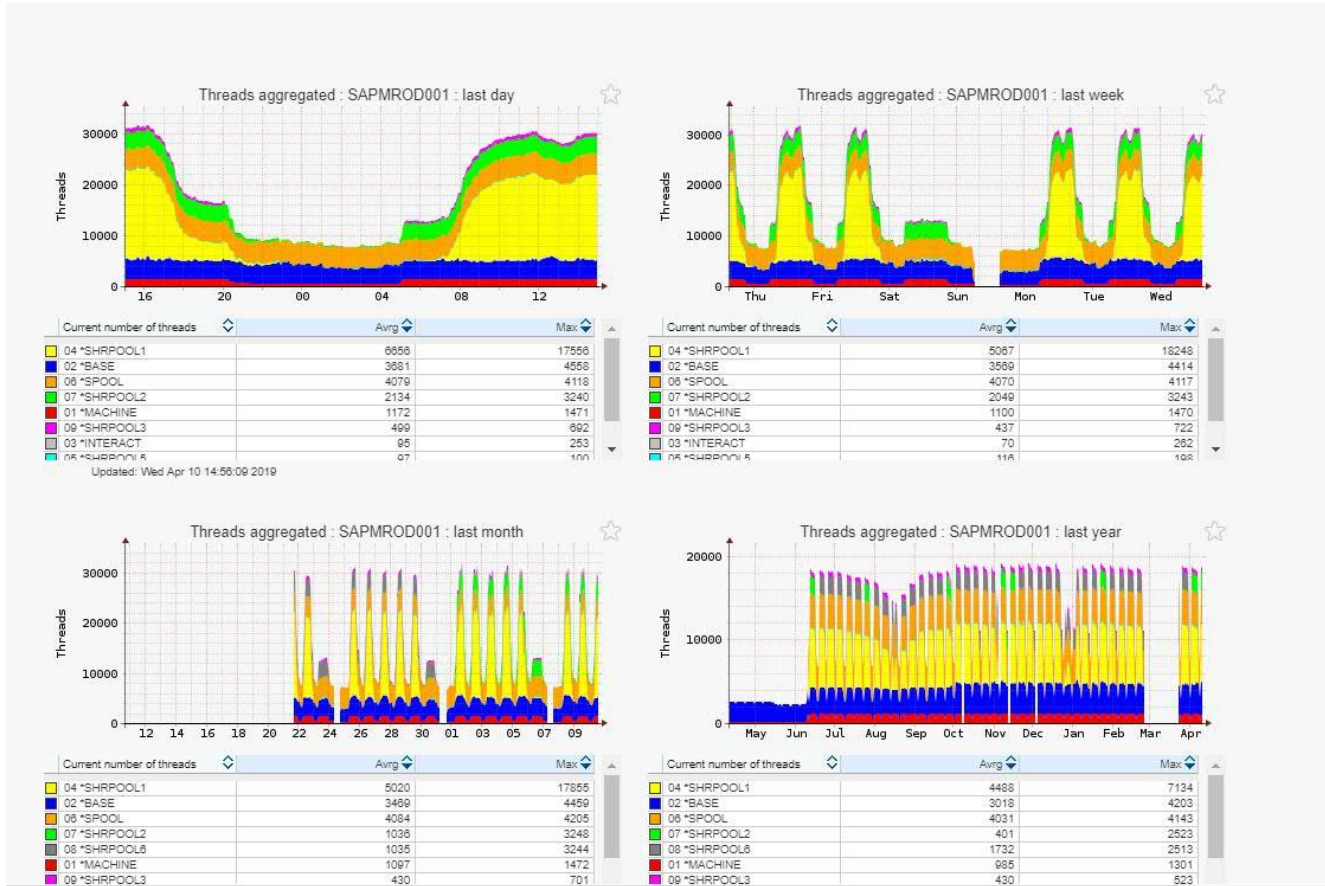
principale (Mo) . . . : 281600,00

Indiquez vos modifications (si admises), puis appuyez sur ENTREE.

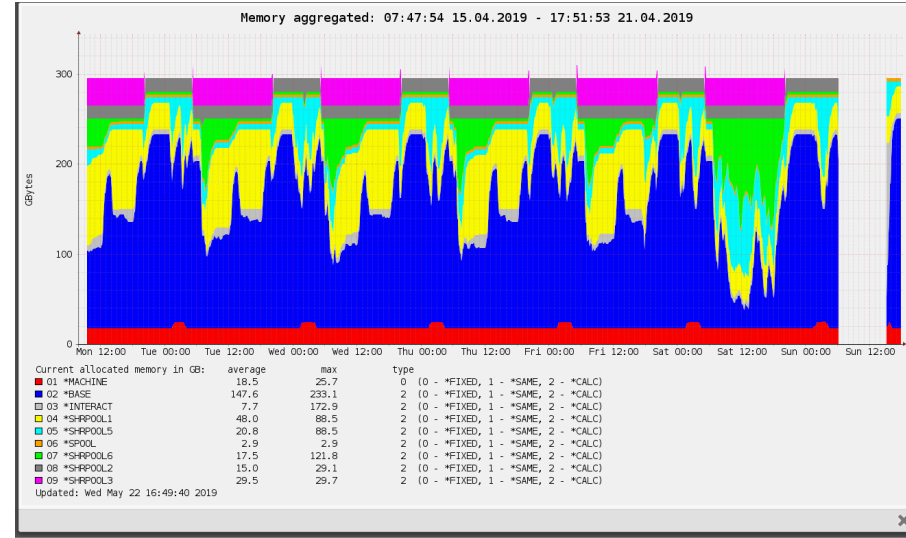
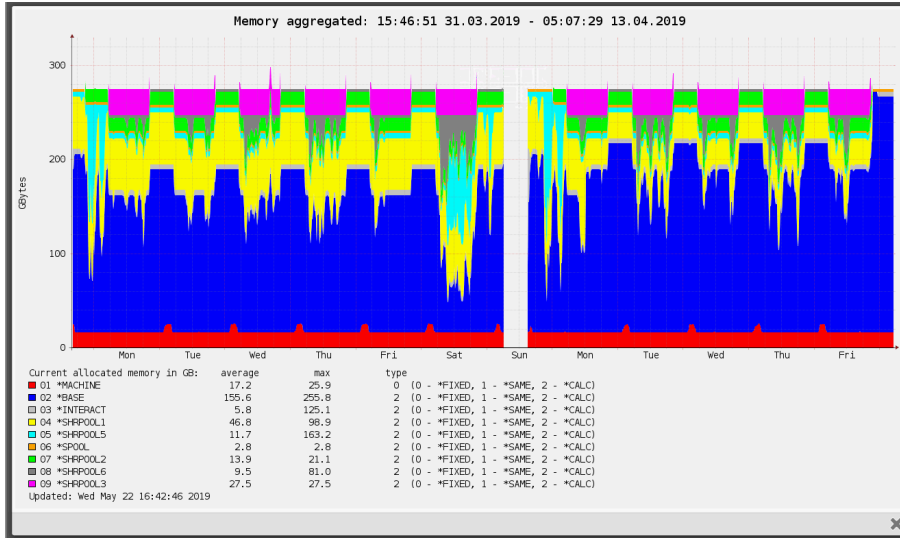
Pool	Taille définie	Activ maxi	Taille attribuée	ID pool	Opt pagination Définie	En cours
*MACHINE	<u>16896_00</u>	++++	16896,00	1	*FIXED	*FIXED
*BASE	<u>177408_00</u>	<u>2540</u>	177408,00	2	*CALC	*CALC
*INTERACT	<u>5632_00</u>	<u>1408</u>	5632,00	3	*CALC	*CALC
*SPOOL	<u>2816_00</u>	<u>224</u>	2816,00	6	*CALC	*CALC
*SHRPOOL1	<u>28160_00</u>	<u>5011</u>	28160,00	4	*CALC	*CALC
*SHRPOOL2	<u>14080_00</u>	<u>679</u>	14080,00	7	*CALC	*CALC
*SHRPOOL3	<u>28160_00</u>	<u>5000</u>	28160,00	9	*CALC	*CALC
*SHRPOOL4	<u>1_00</u>	<u>1</u>			*CALC	
*SHRPOOL5	<u>5632_00</u>	<u>350</u>	5632,00	5	*CALC	*CALC

A suivre...

TUNING 2/4

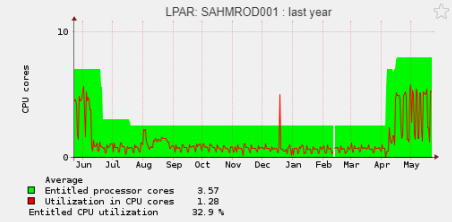
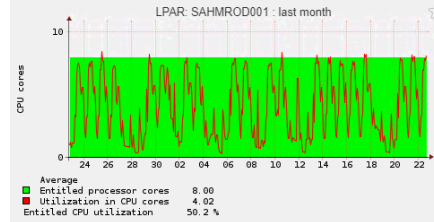
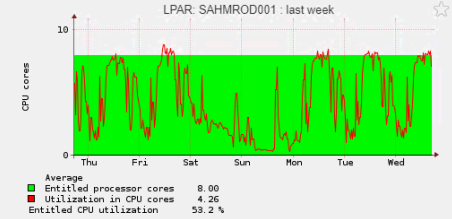
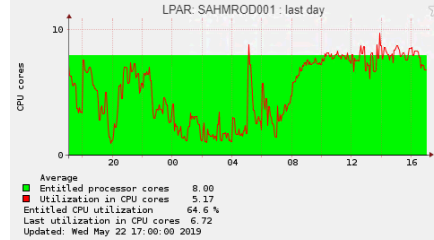
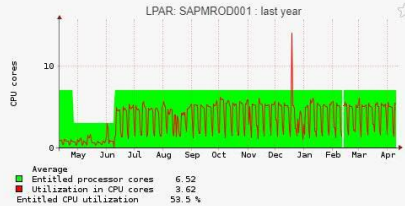
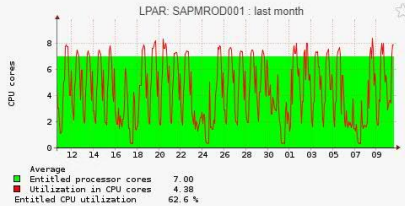
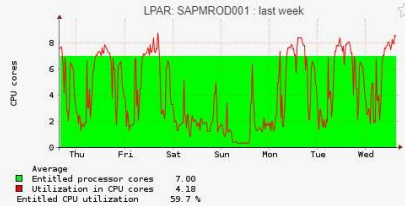
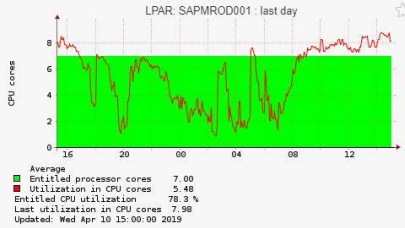


TUNING 3/4



TUNING 4/4

SERVER | VML551L0X1-0200-72A-3R2109/LW | SAPHMROD001



SIZING POUR EVOLUTION D'INFRASTRUCTURE

- Analyse de performances
 - Préparation des collectes de performances
 - Récupération des fichiers de collectes
 - Passage à Diskmagic
 - Interprétations

PRÉPARATION DES COLLECTES DE PERFORMANCES

- CRTPFRTA FROMMGTCOL(COLLECTES4/MROD190314) TOLIB(COLLECTES4)
INTERVAL(5) CRTPFRTSUM(*ALL)
- PRSYSRPT MBR(MROD190314) TITLE('SYSTEM') PERIOD((*FIRST *FIRST) (*LAST *LAST)) LIB(COLLECTES4) TYPE(*ALL)
- PRTCPTRPT MBR(MROD190314) TITLE('COMPONENT') PERIOD((*FIRST *FIRST) (*LAST *LAST)) LIB(COLLECTES4) TYPE(*ALL)
- PRTRSCRPT MBR(MROD190314) TITLE('RESSOURCES') PERIOD((*FIRST *FIRST) (*LAST *LAST)) LIB(COLLECTES4) TYPE(*ALL)

PRÉPARATION DES COLLECTES DE PERFORMANCES

```
% UC:      23,7      Intervalle:  00:05:46      Travaux actifs:  227
```

```
Util  
en
```

Opt	S-syst/trav	cours	Type	% UC	Fonction	Etat
—	HHBATCH	QSYS	SBS	0,0		DEQW
—	PRTCPTPT	QSECOFR	BCH	2,3	PGM-QPTBATCH	MSGW

```
Message . . . . :  Nombre maximal d'enregistrements atteint pour le fichier  
QPPTCPTTR. (C R NOMAX 1-999999)
```

```
Cause . . . . . :  Le nombre maximal d'enregistrements spoule a été atteint  
pendant le traitement du fichier QPPTCPTTR de la bibliothèque QPFR.
```

```
Que faire . . . :  Effectuez l'une des opérations suivantes, puis renouvelez  
votre demande.
```

```
Réponses possibles :
```

```
C -- Pour annuler le traitement, tapez C.
```

```
R -- Compter à nouveau les enregistrements jusqu'à ce que leur nombre soit  
égal à la valeur choisie pour le paramètre MAXRCDS du fichier imprimante.
```

```
NOMAX -- Affecter la valeur *NOMAX au paramètre MAXRCDS du fichier
```

```
A suivre...
```

```
Indiquez votre réponse, puis appuyez sur ENTREE.
```

```
Réponse . . .  NOMAX
```

RÉCUPÉRATION DES FICHIERS DE COLLECTES

Nom de la sortie	Données utilisateur	Utilisateur	Etat	Imprimante	Pages par exemplaire	Exemplaires restants	Date de création	File d'attente en sortie	Numéro	Nom du travail
QPJOBLOG	PRTRSCRPT	QSECOFR	*READY		3	1	23/05/19 06:55:15	QSQRSYS/QEZJOBLOG	2	QSECOFR,PRTRSCRPT/636020
QPPTITVR		QSECOFR	*READY		1038	1	23/05/19 06:55:12	QGPL/QPFROUTQ	1	QSECOFR,PRTRSCRPT/636019
QPPTCPTR		QSECOFR	*READY		9428	1	23/05/19 06:49:45	QGPL/QPFROUTQ	1	QSECOFR,PRTRSCRPT/636019
QPJOBLOG	PRTSYSRPT	QSECOFR	*READY		4	1	23/05/19 06:49:41	QSQRSYS/QEZJOBLOG	2	QSECOFR,PRTSYSRPT/636018
QPPTSYSR		QSECOFR	*READY		13	1	23/05/19 06:49:30	QGPL/QPFROUTQ	1	QSECOFR,PRTSYSRPT/636018
QPJOBLOG	QPADEV0002	QSECOFR	*READY				22/05/19 17:02:10	QSQRSYS/QEZJOBLOG	1	QSECOFR,QPADEV0002/635807
DBOPTRC290		QSECOFR	*READY				22/05/19 11:37:51	QGPL/QPRINT	616	QSECOFR,QPRTJOB/628113
DBOPTRC290		QSECOFR	*READY				22/05/19 11:37:50	QGPL/QPRINT	615	QSECOFR,QPRTJOB/628113
DBOPTRC290		QSECOFR	*READY				22/05/19 11:37:16	QGPL/QPRINT	614	QSECOFR,QPRTJOB/628113
QPDSPJOB		QSECOFR	*READY				22/05/19 11:37:16	QGPL/QPRINT	614	QSECOFR,QPRTJOB/628113
DBOPTRC290		QSECOFR	*READY				22/05/19 11:37:00	QGPL/QPRINT	614	QSECOFR,QPRTJOB/628113
QPJOBLOG	QPADEV0002	QSECOFR	*READY				21/05/19 17:30:11	QSQRSYS/QEZJOBLOG	1	QSECOFR,QPADEV0002/635807
QPJOBLOG	PRTRSCRPT	QSECOFR	*READY				21/05/19 14:35:21	QSQRSYS/QEZJOBLOG	14	QSECOFR,PRTRSCRPT/636020
QPPTITVR		QSECOFR	*READY				21/05/19 14:35:11	QGPL/QPFROUTQ	2	QSECOFR,PRTRSCRPT/636019
QPPTCPTR		QSECOFR	*READY				21/05/19 14:35:11	QGPL/QPFROUTQ	3	QSECOFR,PRTRSCRPT/636019
QPJOBLOG	PRTSYSRPT	QSECOFR	*READY				21/05/19 14:18:21	QSQRSYS/QEZJOBLOG	1038	QSECOFR,PRTSYSRPT/636018
QPPTSYSR		QSECOFR	*READY		13	1	21/05/19 14:18:21	QGPL/QPFROUTQ	9428	QSECOFR,PRTSYSRPT/636018

Context menu options:

- Télécharger uniquement
- Télécharger et afficher
- Télécharger...
- Afficher uniquement
- Suspension
- Edition
- Suppression
- Déplacement...

Download dialog box details:

Télécharger...

Emplacement du téléchargement

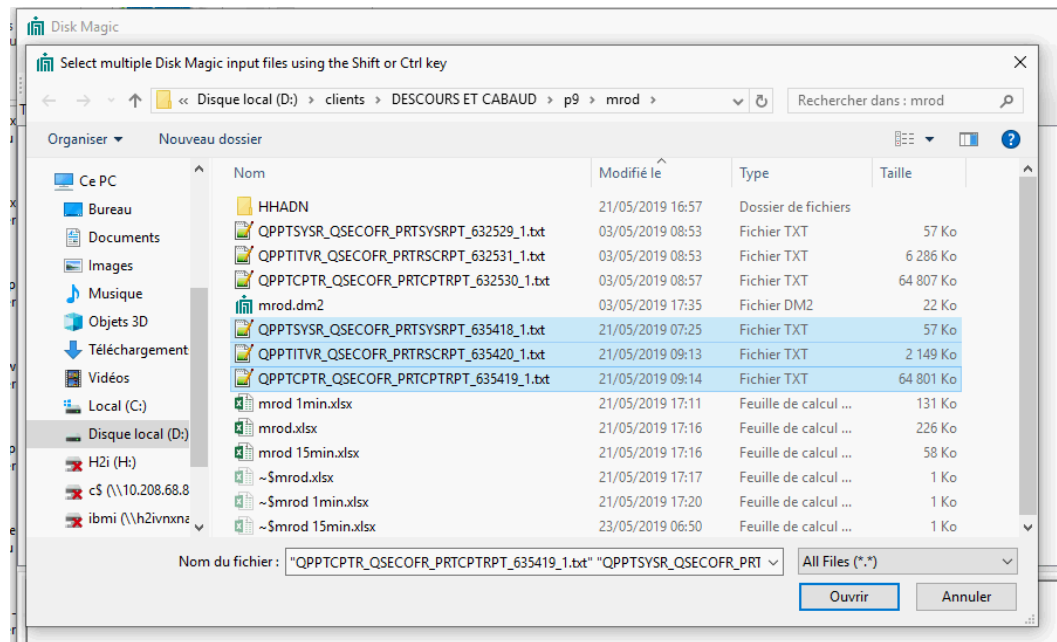
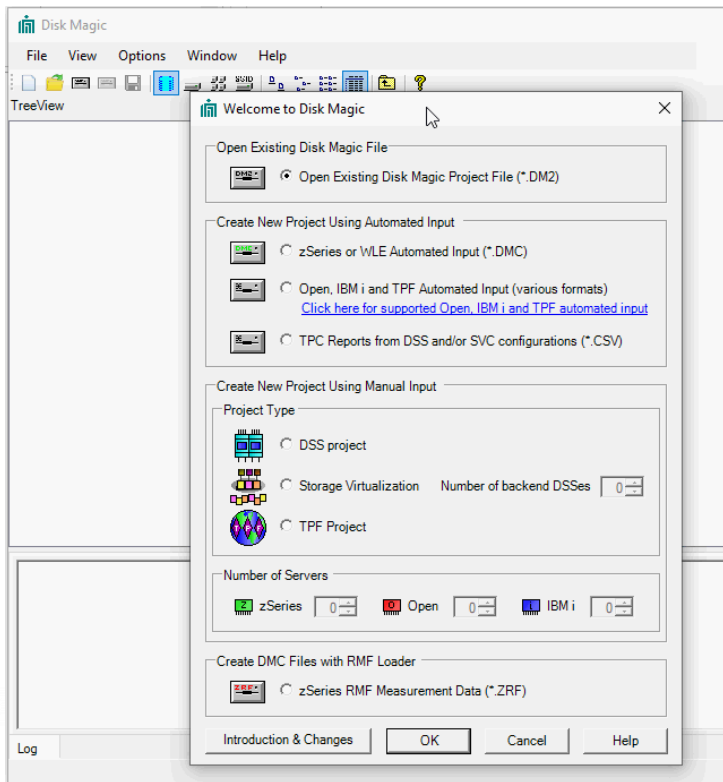
- Télécharger sur le bureau
- Télécharger dans un emplacement temporaire
- Télécharger à la racine de configuration du produit :
C:\Users\jme\Documents\IBM\AccessClient\Spif
- Indiquer un emplacement :
[Text Field] [Surv] [?]

Autre(s)

Utilisez le format PDF s'il est disponible

[OK] [Annulation] [?]

DISK MAGIC



DISK MAGIC

15 min

Multiple File Open - File Overview

Server	Platform	Interval Start Time	Length	ASP	Mirror	Filename(s)
PMROD001	iSeries	Thu Mar 14 05:00:00 2019	00:15:00	Yes	No	QPPTSYSR_QSECOFR_PRTS...

The time interval used for modeling will be 90 seconds (00:15:00)

Combine Intervals

Select All Edit Properties Process Cancel Help

Modifications intervalle de temps

5 min

Multiple File Open - File Overview

Server	Platform	Interval Start Time	Length	ASP	Mirror	Filename(s)
PMROD001	iSeries	Thu Mar 14 05:00:00 2019	00:05:00	Yes	No	QPPTSYSR_QSECOFR_PRTS...

The time interval used for modeling will be 30 seconds (00:05:00)

Combine Intervals

Select All Edit Properties Process Cancel Help

DISK MAGIC

Fri Mar 15 03:45:00 2019	1	2 211,0	50,9	49,1	1,0	194,2	95,4	98,8	1,91	0,00	89,9	89,9	0,00	0,00
Average of all intervals	1	13 935,3	30,6	69,4	0,4	239,8	153,7	86,1	0,63	0,00	16,3	20,7	0,00	0,00

There are 92 time intervals in the data.
The length of all time intervals is 900 seconds (00:15:00).

Multiple File Open - Server Processing Options

For server "PMROD001"

Include this server

iSeries PT Report Properties

Separate storage pool for each current ASP

Keep software mirroring if this is currently active

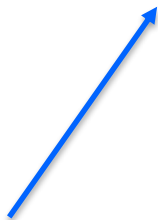
Override Interval Properties for this Server (Advanced)

First Interval Start Time

Interval Length

In minutes: In seconds: hh:mm:ss

OK Cancel Help



Multiple File Open - Server Processing Options

For server "PMROD001"

Include this server

iSeries PT Report Properties

Separate storage pool for each current ASP

Keep software mirroring if this is currently active

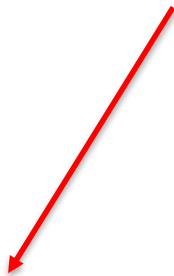
Override Interval Properties for this Server (Advanced)

First Interval Start Time

Interval Length

In minutes: In seconds: hh:mm:ss

OK Cancel Help



Thu Mar 14 12:35:00 2019	1	2 211,0	50,9	49,1	1,0	194,2	95,4	98,8	1,91	0,00	89,9	89,9	0,00	0,00
Average of all intervals	1	13 935,3	30,6	69,4	0,4	239,8	153,7	86,1	0,63	0,00	16,3	20,7	0,00	0,00

There are 92 time intervals in the data.
The length of all time intervals is 300 seconds (00:05:00).

DISK MAGIC

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Interval Date	Interval Start Time	I/O Rate	Read %	Write %	R/W Ratio	Total MB/s	Write MB/s	Read MB/s	Serv Time	Wait Time	KB/Write	KB/Read	W SerTi	R SerTi
2	mars/14/2019	05:00:00	47098,0	20,8%	79,2%	0,3	447,2	354,0	93,2	0,3	0,0	9,7	9,7	0,0	0,0
3	mars/14/2019	05:15:00	46849,8	25,9%	74,1%	0,3	357,4	264,8	92,5	0,1	0,0	7,8	7,8	0,0	0,0
4	mars/14/2019	05:30:00	19276,1	39,2%	60,8%	0,6	195,1	118,7	76,4	0,3	0,0	10,4	10,4	0,0	0,0
5	mars/14/2019	05:45:00	3107,7	65,3%	34,7%	1,9	26,6	9,2	17,4	1,3	0,0	8,8	8,8	0,0	0,0
6	mars/14/2019	06:00:00	11668,4	48,6%	51,4%	0,9	185,7	95,4	90,2	0,7	0,0	16,3	16,3	0,0	0,0
7	mars/14/2019	06:15:00	11929,4	38,0%	62,0%	0,6	260,2	161,3	98,9	0,5	0,0	22,3	22,3	0,0	0,0
8	mars/14/2019	06:30:00	3454,3	25,5%	74,5%	0,3	47,7	35,5	12,2	0,2	0,0	14,1	14,1	0,0	0,0
9	mars/14/2019	06:45:00	2828,2	30,0%	70,0%	0,4	31,7	22,2	9,5	0,3	0,0	11,5	11,5	0,0	0,0
10	mars/14/2019	07:00:00	7247,4	37,0%	63,0%	0,6	89,7	56,6	33,2	0,6	0,0	12,7	12,7	0,0	0,0
11	mars/14/2019	07:15:00	8284,8	54,1%	45,9%	1,2	73,6	33,7	39,8	0,2	0,0	9,1	9,1	0,0	0,0
12	mars/14/2019	07:30:00	5984,0	29,5%	70,5%	0,4	51,3	36,2	15,1	0,4	0,0	8,8	8,8	0,0	0,0
13	mars/14/2019	07:45:00	10433,8	26,4%	73,6%	0,4	108,1	79,5	28,6	0,4	0,0	10,6	10,6	0,0	0,0
14	mars/14/2019	08:00:00	18802,2	29,1%	70,9%	0,4	209,1	148,2	60,9	0,6	0,0	11,4	11,4	0,0	0,0
15	mars/14/2019	08:15:00	19222,9	22,5%	77,5%	0,3	210,9	163,6	47,4	0,4	0,0	11,2	11,2	0,0	0,0

15 min

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Interval Date	Interval Start Time	I/O Rate	Read %	Write %	R/W Ratio	Total MB/s	Write MB/s	Read MB/s	Serv Time	Wait Time	KB/Write	KB/Read	W SerTi	R SerTi
2	mars/14/2019	05:00:00	47098,0	20,8%	79,2%	0,3	447,2	354,0	93,2	0,3	0,0	9,7	9,7	0,0	0,0
3	mars/14/2019	05:05:00	46849,8	25,9%	74,1%	0,3	357,4	264,8	92,5	0,1	0,0	7,8	7,8	0,0	0,0
4	mars/14/2019	05:10:00	19276,1	39,2%	60,8%	0,6	195,1	118,7	76,4	0,3	0,0	10,4	10,4	0,0	0,0
5	mars/14/2019	05:15:00	3107,7	65,3%	34,7%	1,9	26,6	9,2	17,4	1,3	0,0	8,8	8,8	0,0	0,0
6	mars/14/2019	05:20:00	11668,4	48,6%	51,4%	0,9	185,7	95,4	90,2	0,7	0,0	16,3	16,3	0,0	0,0
7	mars/14/2019	05:25:00	11929,4	38,0%	62,0%	0,6	260,2	161,3	98,9	0,5	0,0	22,3	22,3	0,0	0,0
8	mars/14/2019	05:30:00	3454,3	25,5%	74,5%	0,3	47,7	35,5	12,2	0,2	0,0	14,1	14,1	0,0	0,0
9	mars/14/2019	05:35:00	2828,2	30,0%	70,0%	0,4	31,7	22,2	9,5	0,3	0,0	11,5	11,5	0,0	0,0
10	mars/14/2019	05:40:00	7247,4	37,0%	63,0%	0,6	89,7	56,6	33,2	0,6	0,0	12,7	12,7	0,0	0,0
11	mars/14/2019	05:45:00	8284,8	54,1%	45,9%	1,2	73,6	33,7	39,8	0,2	0,0	9,1	9,1	0,0	0,0
12	mars/14/2019	05:50:00	5984,0	29,5%	70,5%	0,4	51,3	36,2	15,1	0,4	0,0	8,8	8,8	0,0	0,0
13	mars/14/2019	05:55:00	10433,8	26,4%	73,6%	0,4	108,1	79,5	28,6	0,4	0,0	10,6	10,6	0,0	0,0
14	mars/14/2019	06:00:00	18802,2	29,1%	70,9%	0,4	209,1	148,2	60,9	0,6	0,0	11,4	11,4	0,0	0,0
15	mars/14/2019	06:05:00	19222,9	22,5%	77,5%	0,3	210,9	163,6	47,4	0,4	0,0	11,2	11,2	0,0	0,0

5 min

DISK MAGIC

Click on a column header to select the interval with the peak value for that column, or click on a row to select a specific interval

Interval Start Time	Servers	I/O Rate	Read%	Write%	R/W Ratio	MB/s	W MB/s	R MB/s	Serv Time	Wait Time	kB/W	kB/R	W SerTi	R SerTi	^
Fri Mar 15 01:45:00 2019	1	6 481,3	18,3	81,7	0,2	202,9	165,8	37,1	0,71	0,00	32,1	32,1	0,00	0,00	
Fri Mar 15 02:00:00 2019	1	2 486,2	59,6	40,4	1,5	199,6	80,6	119,0	2,54	0,00	82,2	82,2	0,00	0,00	
Fri Mar 15 02:15:00 2019	1	2 237,4	54,9	45,1	1,2	193,8	87,5	106,3	2,07	0,00	88,7	88,7	0,00	0,00	
Fri Mar 15 02:30:00 2019	1	2 122,1	55,5	44,5	1,2	209,8	93,4	116,4	2,77	0,00	101,2	101,2	0,00	0,00	
Fri Mar 15 02:45:00 2019	1	2 333,7	68,0	32,0	2,1	199,0	63,6	135,4	3,10	0,00	87,3	87,3	0,00	0,00	
Fri Mar 15 03:00:00 2019	1	3 701,6	72,1	27,9	2,6	239,9	66,9	172,9	2,57	0,00	66,4	66,4	0,00	0,00	
Fri Mar 15 03:15:00 2019	1	2 137,6	51,9	48,1	1,1	174,8	84,1	90,6	2,01	0,00	83,7	83,7	0,00	0,00	
Fri Mar 15 03:30:00 2019	1	2 371,3	49,8	50,2	1,0	199,6	100,1	99,4	1,77	0,00	86,2	86,2	0,00	0,00	
Fri Mar 15 03:45:00 2019	1	2 211,0	50,9	49,1	1,0	194,2	95,4	98,8	1,91	0,00	89,9	89,9	0,00	0,00	
Average of all intervals	1	13 935,3	30,6	69,4	0,4	239,8	153,7	86,1	0,63	0,00	16,3	20,7	0,00	0,00	∨

There are 92 time intervals in the data.

The length of all time intervals is 900 seconds (00:15:00).

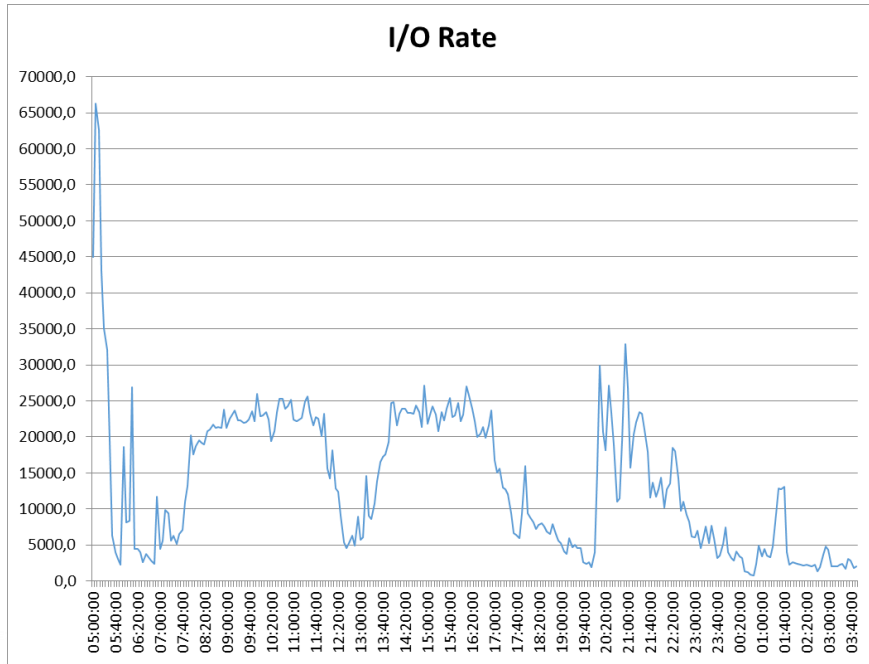
Click on a column header to select the interval with the peak value for that column, or click on a row to select a specific interval

Interval Start Time	Servers	I/O Rate	Read%	Write%	R/W Ratio	MB/s	W MB/s	R MB/s	Serv Time	Wait Time	kB/W	kB/R	W SerTi	R SerTi	^
Fri Mar 15 03:05:00 2019	1	4 297,4	71,9	28,1	2,6	243,2	68,3	175,0	2,43	0,00	58,0	58,0	0,00	0,00	
Fri Mar 15 03:10:00 2019	1	2 053,7	63,5	36,5	1,7	216,8	79,2	137,6	3,09	0,00	108,1	108,1	0,00	0,00	
Fri Mar 15 03:15:00 2019	1	2 069,4	45,7	54,3	0,8	156,0	84,7	71,2	2,03	0,00	77,2	77,2	0,00	0,00	
Fri Mar 15 03:20:00 2019	1	2 081,8	50,3	49,7	1,0	173,1	86,1	87,1	1,90	0,00	85,2	85,2	0,00	0,00	
Fri Mar 15 03:25:00 2019	1	2 269,9	58,9	41,1	1,4	197,0	80,9	116,1	2,10	0,00	88,9	88,9	0,00	0,00	
Fri Mar 15 03:30:00 2019	1	2 405,6	52,7	47,3	1,1	213,3	100,8	112,5	1,83	0,01	90,8	90,8	0,00	0,00	
Fri Mar 15 03:35:00 2019	1	1 659,3	68,3	31,7	2,2	227,0	71,9	155,1	2,85	0,00	140,1	140,1	0,00	0,00	
Fri Mar 15 03:40:00 2019	1	3 056,3	37,5	62,5	0,6	177,3	110,8	66,5	1,25	0,00	59,4	59,4	0,00	0,00	
Fri Mar 15 03:45:00 2019	1	2 821,5	40,4	59,6	0,7	189,6	113,0	76,6	1,37	0,00	68,8	68,8	0,00	0,00	
Fri Mar 15 03:50:00 2019	1	1 817,8	63,5	36,5	1,7	212,4	77,6	134,8	2,51	0,00	119,6	119,6	0,00	0,00	
Fri Mar 15 03:55:00 2019	1	2 001,0	54,2	45,8	1,2	188,6	86,5	102,2	2,19	0,00	96,5	96,5	0,00	0,00	
Average of all intervals	1	13 947,8	30,6	69,4	0,4	240,3	153,8	86,5	0,63	0,01	16,3	20,7	0,00	0,00	∨

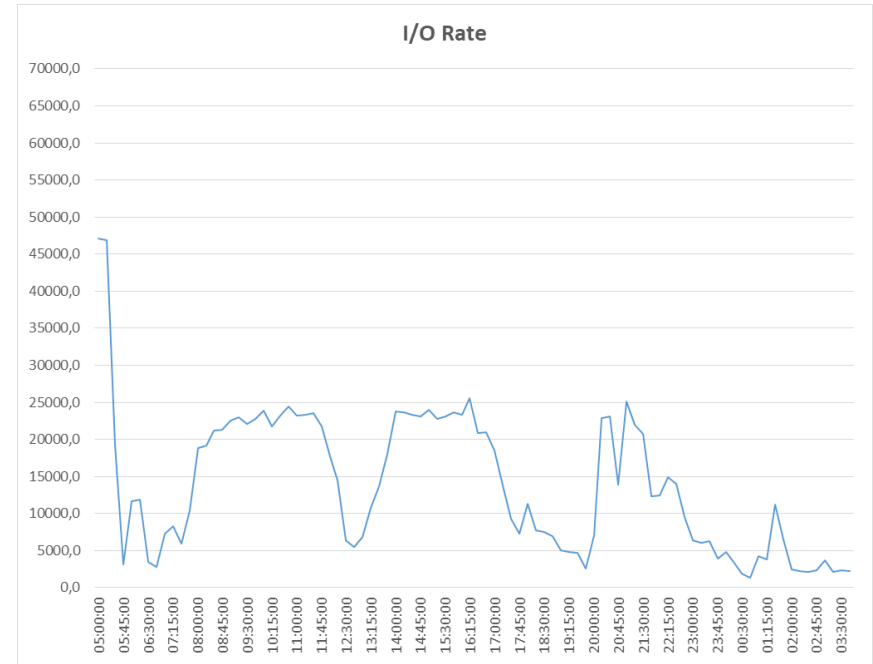
There are 276 time intervals in the data.

The length of all time intervals is 300 seconds (00:05:00).

DISK MAGIC

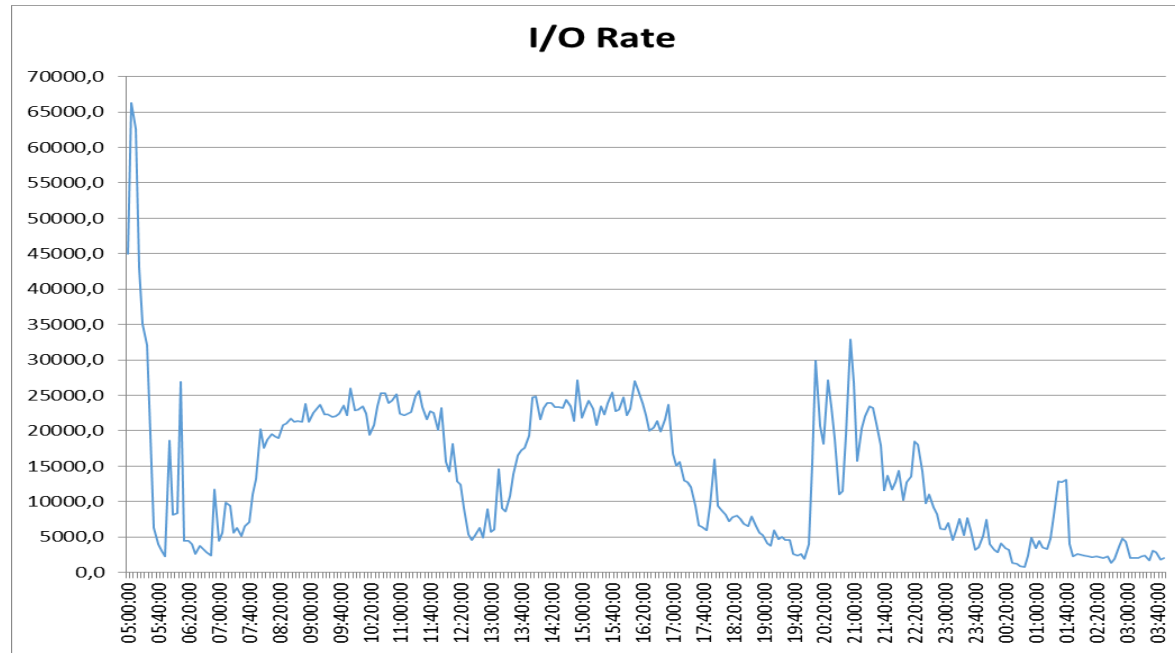


5 min



15 min

DISK MAGIC



	Nbre IOPS	TAUX WRITE %	TAILLE BLOC KB WRITE	MAX IOPS	TX WRITE	TAILLE BLOC
AVERAGE	13948	69	16,3			
MAX I/O	66330	88	7,1			
MAX Write	13137	91,1	18,8			
MAX BLOC	1651	31,7	140,1			
MROD 7H30 12H30	21580	74	11	25989	73	10
MROD 13H30 18H30	18717	74	10,6	27141	73	10,4
MROD 20-2	7126	57	23	32845	78,9	32

DISK MAGIC

- CALCUL DU DWPD (Disk Write Per Day)
- Représente la volumétrie de données réécrites par jour sur un système
- Utilisation de l'average de Disk Magic

Click on a column header to select the interval with the peak value for that column, or click on a row to select a specific interval

Interval Start Time	Servers	I/O Rate	Read%	Write%	R/W Ratio	MB/s	W MB/s	R MB/s	Serv Time	Wait Time	kB/W	kB/R	W SerTi	R SerTi	
Fri Mar 15 03:55:00 2019	1	2 001.0	54,2	45,8	1,2	188,6	96,5	102,2	2,19	0,00	96,5	96,5	0,00	0,00	^
Average of all intervals	1	13 947,8	30,6	69,4	0,4	240,3	153,8	86,5	0,63	0,01	16,3	20,7	0,00	0,00	v

There are 276 time intervals in the data.

The length of all time intervals is 300 seconds (00:05:00).

$R \text{ MB/s} \times 3600 \times 24 \Rightarrow$ écriture totale sur une journée / 1024 \Rightarrow passage en GB / taille en GB de la partition \Rightarrow DWPD

Exemple du client qui a une partition ici de 20 923GB

$153,8 * 3600 * 24 \Rightarrow 13\ 288\ 320 / 1024 \Rightarrow 12976,875 \text{ GB pour } 24\text{h}$

$\Rightarrow 12976,875 / 20923 \Rightarrow$ **DWPD de 0,62**

DISK MAGIC

Click on a column header to select the interval with the peak value for that column, or click on a row to select a specific interval

Interval Start Time	Servers	I/O Rate	Read%	Write%	R/W Ratio	MB/s	W MB/s	R MB/s	Serv Time	Wait Time	kB/W	kB/R	W SerTi	R SerTi
Thu Mar 14 09:00:00 2019	1	23 748.2	22.1	77.9	0.3	252.0	196.3	55.7	0.49	0.00	10.9	10.9	0.00	0.00
Thu Mar 14 09:05:00 2019	1	21 245.5	25.0	75.0	0.3	222.5	166.9	55.6	0.51	0.00	10.7	10.7	0.00	0.00
Thu Mar 14 09:10:00 2019	1	22 523.3	22.1	77.9	0.3	229.3	179.7	50.6	0.40	0.00	10.4	10.4	0.00	0.00
Thu Mar 14 09:15:00 2019	1	23 153.4	22.3	77.7	0.3	244.3	189.7	54.5	0.45	0.00	10.8	10.8	0.00	0.00
Thu Mar 14 09:20:00 2019	1	23 660.5	22.8	77.2	0.3	257.2	198.4	58.7	0.42	0.00	11.1	11.1	0.00	0.00
Thu Mar 14 09:25:00 2019	1	22 288.1	22.0	78.0	0.3	231.6	180.7	50.9	0.37	0.00	10.6	10.6	0.00	0.00
Thu Mar 14 09:30:00 2019	1	22 311.1	20.6	79.4	0.3	232.0	184.2	47.8	0.34	0.00	10.7	10.7	0.00	0.00
Thu Mar 14 09:35:00 2019	1	21 906.1	22.4	77.6	0.3	221.9	172.1	49.8	0.33	0.00	10.4	10.4	0.00	0.00
Thu Mar 14 09:40:00 2019	1	22 096.6	20.1	79.9	0.3	222.9	178.0	44.9	0.36	0.00	10.3	10.3	0.00	0.00
Thu Mar 14 09:45:00 2019	1	22 374.6	21.3	78.7	0.3	238.3	187.6	50.7	0.37	0.00	10.9	10.9	0.00	0.00
Thu Mar 14 09:50:00 2019	1	23 817.9	19.8	80.2	0.2	247.0	196.1	48.9	0.38	0.00	10.7	10.7	0.00	0.00
Thu Mar 14 09:55:00 2019	1	22 229.1	22.9	77.1	0.3	259.5	200.2	59.4	0.45	0.00	12.0	12.0	0.00	0.00
Thu Mar 14 10:00:00 2019	1	25 599.5	26.9	73.1	0.4	276.2	202.0	74.2	0.61	0.00	10.9	10.9	0.00	0.00
Thu Mar 14 10:05:00 2019	1	22 870.6	22.9	77.1	0.3	246.0	189.7	56.3	0.49	0.00	11.0	11.0	0.00	0.00
Thu Mar 14 10:10:00 2019	1	22 950.9	21.9	78.1	0.3	229.4	179.1	50.3	0.41	0.00	10.2	10.2	0.00	0.00
Thu Mar 14 10:15:00 2019	1	23 478.2	24.3	75.7	0.3	238.5	181.3	58.2	0.45	0.00	10.4	10.4	0.00	0.00
Thu Mar 14 10:20:00 2019	1	22 456.9	24.3	75.7	0.3	224.2	169.7	54.5	0.44	0.00	10.2	10.2	0.00	0.00
Thu Mar 14 10:25:00 2019	1	19 369.6	24.0	76.0	0.3	189.7	144.2	45.5	0.38	0.00	10.0	10.0	0.00	0.00
Thu Mar 14 10:30:00 2019	1	20 789.4	22.1	77.9	0.3	213.1	165.9	47.2	0.38	0.00	10.5	10.5	0.00	0.00

There are 276 time intervals in the data.
The length of all time intervals is 300 seconds (00:05:00).

Excel Log Add Model Finish Delete Set Range Restore Cancel Help

Thu Mar 14 10:00:00 2019 - iSeries1

General | iSeries Disk | iSeries Workload

Name: iSeries1
Hardware Type: IBM iSeries/Interal
Manufacturer: IBM
Disk Read Cache (MiB): 576

Processor Utilization (%) 0.0
Highest Drive Utilization (%) 0.0
Avg. Device Adapter Utilization (%) 0.0
Host Interface Utilization (%) 0.0
Host Adapter Utilization (%) 0.0
Internal Bus Utilization (%) 0.0
PPRC Link Utilization (%) N/A
XRC write data rate (MiB/s) N/A
Synchronous PPRC write (MiB/s) N/A
Asynchronous PPRC write (MiB/s) N/A

Description

History Solve Base Report Graph Help

Thu Mar 14 10:00:00 2019 - iSeries1

General | iSeries Disk | iSeries Workload

Name: iSeries1
Hardware Type: IBM iSeries/Interal
Manufacturer: IBM
Disk Read Cache (MiB): 576

Processor Utilization (%) 0.0
Highest Drive Utilization (%) 0.0
Avg. Device Adapter Utilization (%) 0.0
Host Interface Utilization (%) 0.0
Host Adapter Utilization (%) 0.0
Internal Bus Utilization (%) 0.0
PPRC Link Utilization (%) N/A
XRC write data rate (MiB/s) N/A
Synchronous PPRC write (MiB/s) N/A
Asynchronous PPRC write (MiB/s) N/A

Description

History Solve Base Report Graph Help

Disk Magic - DMW10311

Base was successfully created for DSS iSeries1 in model Thu Mar 14 10:00:00 2019.

OK Help

Thu Mar 14 10:00:00 2019 - iSeries1

General | Interfaces | iSeries Disk | iSeries Workload

Name: iSeries1
Hardware Type: IBM Storwize V5100 8.2
Manufacturer: IBM
System Memory (GiB): 64
Number of Node Pairs: 1
Data Reduction: None

Description

Easy Tier Settings

DISK MAGIC

General Interfaces iSeries Disk iSeries Workload

Name: iSeries1

Hardware Type: IBM Storwize V5100 8.2

Manufacturer: IBM

System Memory (GiB): 192

Number of Node Pairs: 1

Data Reduction: (empty)

Description: (empty)

Easy Tier Settings: (empty)

General Interfaces iSeries Disk iSeries Workload

Name: iSeries1

Hardware Type: IBM Storwize V5100 8.2

Manufacturer: IBM

System Memory (GiB): 192

Number of Node Pairs: 1

Data Reduction: Data Reduction Pools, None, Data Reduction Pools

Description: (empty)

Easy Tier Settings: (empty)

DISK MAGIC

General Interfaces | Series Disk | Series Workload

Server	Cover side	DSC side	Count	Distance (km)
PMROD001...	Fibre 8 Gb	Fibre 16 Gb	4	0

Buttons: From Disk Subsystem, From Server, Edit

General Interfaces | Series Disk | Series Workload

DSS side	Server side	Count
Fibre 16 Gb	Fibre 8 Gb	8

For a Primary, the Remote Copy interfaces are not included in this list, see below

Buttons: Add, Delete, Edit

From Disk Subsystem From Server

General Interfaces | Series Disk | Series Workload

Storage pools

Name	Avail.cap.(GB)	Used cap.(GB)	Volume count	Tiers
Pool_PMROD001_A...	20 923	20 923	71	1

Buttons: Edit

Physical Type	RAID	Width	Arrays	Drives	GB	Storage Pool
600GB/19k	DRAID 5	8 (6+P)	7	56	25 187	Pool_PMROD00...

Edit RAID Ranks

Drive Type: 4.8TB NVMe Flash Core Module

RAID Type: RAID 6 Distributed RAID

Rank Width: 12

Stripe Width: 9+P+Q

Rebuild Areas: 1 Automatic

Storage Pool: Pool_PMROD001_ASP1

Size:

Avail. Capacity (GB): 42 631

Ranks: 1

Buttons: OK, Cancel, Help

DISK MAGIC

The screenshot displays the Disk Magic software interface, showing workload parameters and performance metrics for a server. The interface is divided into several sections:

- Workload parameters for PMROD001_ASP1 server:**
 - Reads per sec: 6 982,1
 - Writes per sec: 19 007,4
 - I/Os per sec: 25 989,6
 - Read Percentage: 26,9
 - Avg KB per I/O: 10,9
 - Main Storage (MB): 271 360
 - Storage Pool: Pool_PMROD001_ASP
 - LUN Size: user defined
 - LUN count: 71
 - Logical Capacity (GB): 20 923
 - Thin Provisioning:
 - Hardware Compression:
 - Compressibility (%): 50,0
- Performance of PMROD001_ASP1 server:**
 - Service Time (msec): 0,61
 - Wait Time (msec): 0,00
 - LUN Utilization (%): 6,2
- Processor Utilization for I/O (%):** 0,0
- Highest NVMe Flash Utilization (%):** 0,0
- Avg. NVMe Interface Utilization (%):** 0,0
- Highest Flash/SSD Utilization (%):** 0,0
- Highest RI Flash Utilization (%):** 0,0
- Highest SAS 15k Drive Utilization (%):** 0,0
- Highest SAS 10k Drive Utilization (%):** 0,0
- Highest SAS 7.2k Drive Utilization (%):** 0,0

The interface also shows a 'Performance' section with a table of utilization metrics:

Processor Utilization for I/O (%)	22,6
Highest NVMe Flash Utilization (%)	12,8
Avg. NVMe Interface Utilization (%)	8,8
Highest Flash/SSD Utilization (%)	0,0
Highest RI Flash Utilization (%)	0,0
Highest SAS 15k Drive Utilization (%)	0,0
Highest SAS 10k Drive Utilization (%)	0,0
Highest SAS 7.2k Drive Utilization (%)	0,0
Avg. SAS Interface Utilization (%)	0,0
Host Interface Utilization (%)	20,8
Host Adapter Utilization (%)	1,7
Internal Bus Utilization (%)	7,7
PPRC Link Utilization (%)	0,0
XRC write data rate (MiB/s)	N/A
Synchronous PPRC write (MiB/s)	N/A
Asynchronous PPRC write (MiB/s)	0,00

A dialog box is visible, indicating that the operation was successful:

Thu Mar 14 10:00:00 2019 - iSeries1 - Base # 5 - Storwize V5100 (8.2)

Thu Mar 14 10:00:00 2019 - iSeries1 - Base # 2 - iSeriesInternal

Thu Mar 14 10:00:00 2019 was successfully

OK Help

XRC write data rate (MiB/s) N/A

Synchronous PPRC write (MiB/s) N/A

Asynchronous PPRC write (MiB/s) N/A

DISK MAGIC

General Interfaces iSeries Disk iSeries Workload

Name: iSeries 1

Hardware Type: IBM Storwize V7000-724 8.2

Manufacturer: IBM

System Memory (GiB): 128

Number of Node Pairs: 1 Compression Accelerators (per node pair): 2

Data Reduction: Data Reduction Pools

Description

Easy Tier Settings

General Interfaces iSeries Disk iSeries Workload

iSeries Workload

PMROD001_ASP1

Workload parameters for PMROD001_ASP1 server

Reads per sec: 6 982,1
 Writes per sec: 19 007,4
 I/Os per sec: 25 989,6
 Read Percentage: 26,9
 Avg KiB per I/O: 10,9
 Main Storage (MB): 271 360

Storage Pool: Pool_PMROD001_ASP
 LUN Size: user defined
 LUN count: 71
 Logical Capacity (GB): 20 923
 Thin Provisioning

Hardware Compression
Compressibility (%): 50,0

Cache Statistics Remote Copy

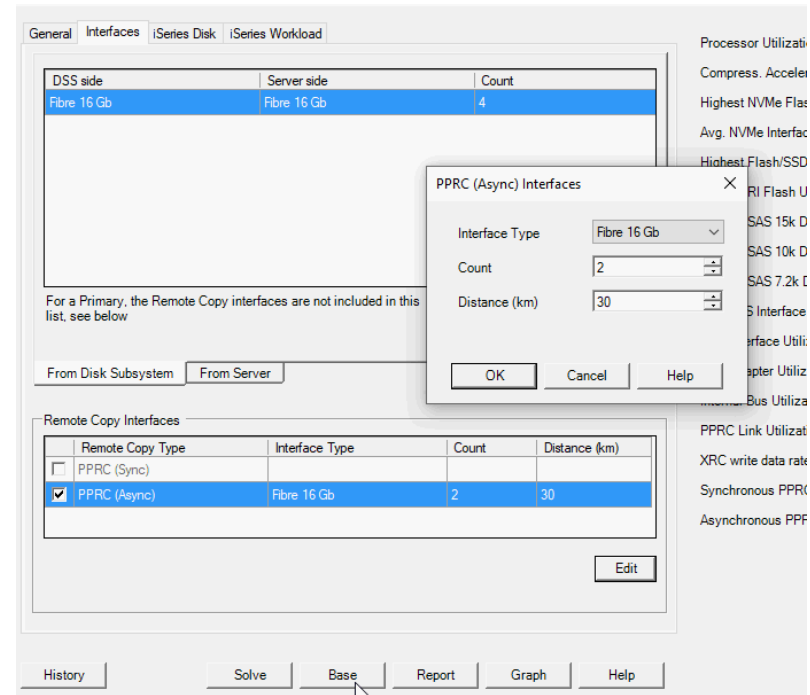
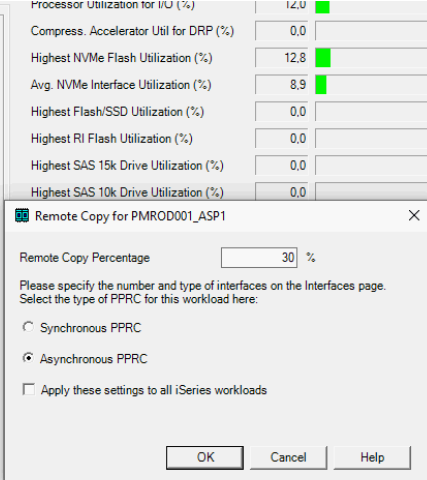
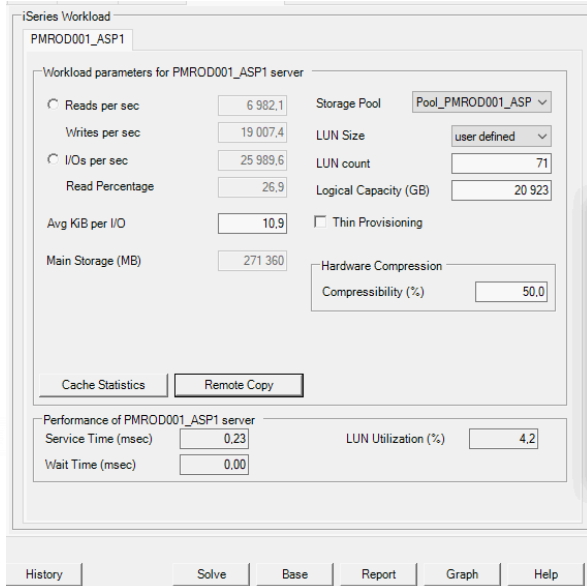
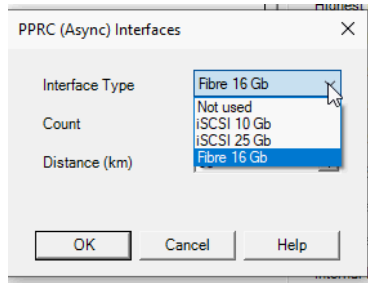
Performance of PMROD001_ASP1 server

Service Time (msec): 0,23 LUN Utilization (%): 4,2
Wait Time (msec): 0,00

Processor Utilization for I/O (%): 12,0
Compress. Accelerator Util for DRP (%): 0,0
Highest NVMe Flash Utilization (%): 12,8
Avg. NVMe Interface Utilization (%): 8,9
Highest Flash/SSD Utilization (%): 0,0
Highest RI Flash Utilization (%): 0,0
Highest SAS 15k Drive Utilization (%): 0,0
Highest SAS 10k Drive Utilization (%): 0,0
Highest SAS 7.2k Drive Utilization (%): 0,0
Avg. SAS Interface Utilization (%): 0,0
Host Interface Utilization (%): 20,8
Host Adapter Utilization (%): 1,7
Internal Bus Utilization (%): 6,1
PPRC Link Utilization (%): N/A
XRC write data rate (MiB/s): N/A
Synchronous PPRC write (MiB/s): N/A
Asynchronous PPRC write (MiB/s): N/A

History Solve Base Report Graph Help

DISK MAGIC



DISK MAGIC

Thu Mar 14 10:00:00 2019 - iSeries1 - Solve # 5 - Storvize V5100 (8.2)

General Interfaces iSeries Disk iSeries Workload

iSeries Workload

PMROD001_ASP1

Workload parameters for PMROD001_ASP1 server

Reads per sec 6 982.1 Storage Pool Pool_PMROD001_ASP

Writes per sec 19 007.4 LUN Size user defined

I/Os per sec 25 989.6 LUN count 71

Read Percentage 26.9 Logical Capacity (GB) 20 923

Avg KB per I/O 10.9 Thin Provisioning

Main Storage (MB) 271 360 Hardware Compression

Compressibility (%) 50.0

Cache Statistics Remote Copy

Performance of PMROD001_ASP1 server

Service Time (msec) 0.34 LUN Utilization (%) 6.2

Wait Time (msec) 0.00

Processor Utilization for I/O (%) 22.6

Highest NVMe Flash Utilization (%) 12.8

Avg. NVMe Interface Utilization (%) 8.8

Highest Flash/SSD Utilization (%) 0.0

Highest RI Flash Utilization (%) 0.0

Highest SAS 15k Drive Utilization (%) 0.0

Highest SAS 10k Drive Utilization (%) 0.0

Highest SAS 7.2k Drive Utilization (%) 0.0

Avg. SAS Interface Utilization (%) 0.0

Host Interface Utilization (%) 20.8

Host Adapter Utilization (%) 1.7

Internal Bus Utilization (%) 7.7

PPRC Link Utilization (%) 0.0

XRC write data rate (MiB/s) N/A

Synchronous PPRC write (MiB/s) N/A

Asynchronous PPRC write (MiB/s) 0.00

History Solve Base Report Graph Help

Thu Mar 14 10:00:00 2019 - iSeries1 - Solve # 4 - Storvize V5100 (8.2)

General Interfaces iSeries Disk iSeries Workload

iSeries Workload

PMROD001_ASP1

Workload parameters for PMROD001_ASP1 server

Reads per sec 6 982.1 Storage Pool Pool_PMROD001_ASP

Writes per sec 19 007.4 LUN Size user defined

I/Os per sec 25 989.6 LUN count 71

Read Percentage 26.9 Logical Capacity (GB) 20 923

Avg KB per I/O 10.9 Thin Provisioning

Main Storage (MB) 271 360 Hardware Compression

Compressibility (%) 50.0

Cache Statistics Remote Copy

Performance of PMROD001_ASP1 server

Service Time (msec) 0.53 LUN Utilization (%) 9.7

Wait Time (msec) 0.00

Processor Utilization for I/O (%) 64.8

Highest NVMe Flash Utilization (%) 12.8

Avg. NVMe Interface Utilization (%) 8.8

Highest Flash/SSD Utilization (%) 0.0

Highest RI Flash Utilization (%) 0.0

Highest SAS 15k Drive Utilization (%) 0.0

Highest SAS 10k Drive Utilization (%) 0.0

Highest SAS 7.2k Drive Utilization (%) 0.0

Avg. SAS Interface Utilization (%) 0.0

Host Interface Utilization (%) 20.8

Host Adapter Utilization (%) 2.9

Internal Bus Utilization (%) 12.5

PPRC Link Utilization (%) 0.0

XRC write data rate (MiB/s) N/A

Synchronous PPRC write (MiB/s) N/A

Asynchronous PPRC write (MiB/s) 42.57

History Solve Base Report Graph Help

DISK MAGIC

General Interfaces iSeries Disk iSeries Workload

iSeries Workload

PMROD001_ASP1

Workload parameters for PMROD001_ASP1 server

Reads per sec 6 982.1 Storage Pool Pool_PMROD001_ASP
 Writes per sec 19 007.4 LUN Size user defined
 I/Os per sec 25 989.6 LUN count 71
 Read Percentage 26.9 Logical Capacity (GB) 20 923
 Avg KiB per I/O 10.9 Thin Provisioning
 Main Storage (MB) 271 360 Hardware Compression
 Compressibility (%) 50.0

Cache Statistics Remote Copy

Performance of PMROD001_ASP1 server

Service Time (msec) 0.23 LUN Utilization (%) 4.2
 Wait Time (msec) 0.00

Processor Utilization for I/O (%)	12.0
Compress. Accelerator Util for DRP (%)	0.0
Highest NVMe Flash Utilization (%)	12.8
Avg. NVMe Interface Utilization (%)	8.9
Highest Flash/SSD Utilization (%)	0.0
Highest RI Flash Utilization (%)	0.0
Highest SAS 15k Drive Utilization (%)	0.0
Highest SAS 10k Drive Utilization (%)	0.0
Highest SAS 7.2k Drive Utilization (%)	0.0
Avg. SAS Interface Utilization (%)	0.0
Host Interface Utilization (%)	20.8
Host Adapter Utilization (%)	1.7
Internal Bus Utilization (%)	6.1
PPRC Link Utilization (%)	N/A
XRC write data rate (MiB/s)	N/A
Synchronous PPRC write (MiB/s)	N/A
Asynchronous PPRC write (MiB/s)	N/A

History Solve Base Report Graph Help

General Interfaces iSeries Disk iSeries Workload

iSeries Workload

PMROD001_ASP1

Workload parameters for PMROD001_ASP1 server

Reads per sec 6 982.1 Storage Pool Pool_PMROD001_ASP
 Writes per sec 19 007.4 LUN Size user defined
 I/Os per sec 25 989.6 LUN count 71
 Read Percentage 26.9 Logical Capacity (GB) 20 923
 Avg KiB per I/O 10.9 Thin Provisioning
 Main Storage (MB) 271 360 Hardware Compression
 Compressibility (%) 50.0

Cache Statistics Remote Copy

Performance of PMROD001_ASP1 server

Service Time (msec) 0.39 LUN Utilization (%) 7.2
 Wait Time (msec) 0.00

Processor Utilization for I/O (%)	22.5
Compress. Accelerator Util for DRP (%)	0.0
Highest NVMe Flash Utilization (%)	12.8
Avg. NVMe Interface Utilization (%)	8.9
Highest Flash/SSD Utilization (%)	0.0
Highest RI Flash Utilization (%)	0.0
Highest SAS 15k Drive Utilization (%)	0.0
Highest SAS 10k Drive Utilization (%)	0.0
Highest SAS 7.2k Drive Utilization (%)	0.0
Avg. SAS Interface Utilization (%)	0.0
Host Interface Utilization (%)	20.8
Host Adapter Utilization (%)	2.9
Internal Bus Utilization (%)	10.9
PPRC Link Utilization (%)	0.0
XRC write data rate (MiB/s)	N/A
Synchronous PPRC write (MiB/s)	N/A
Asynchronous PPRC write (MiB/s)	42.57

History Solve Base Report Graph Help

DISK MAGIC

Graph Options

Graph data: Service Time in ms

Server type: iSeries

Sensitivity: None

Graph style: Line Totals on bar

Range: I/O Rate from 5 000 to 200 000 by 10 000

For each predefined skew level

For synchronized intervals

By server or IBM i ASP

By LCU

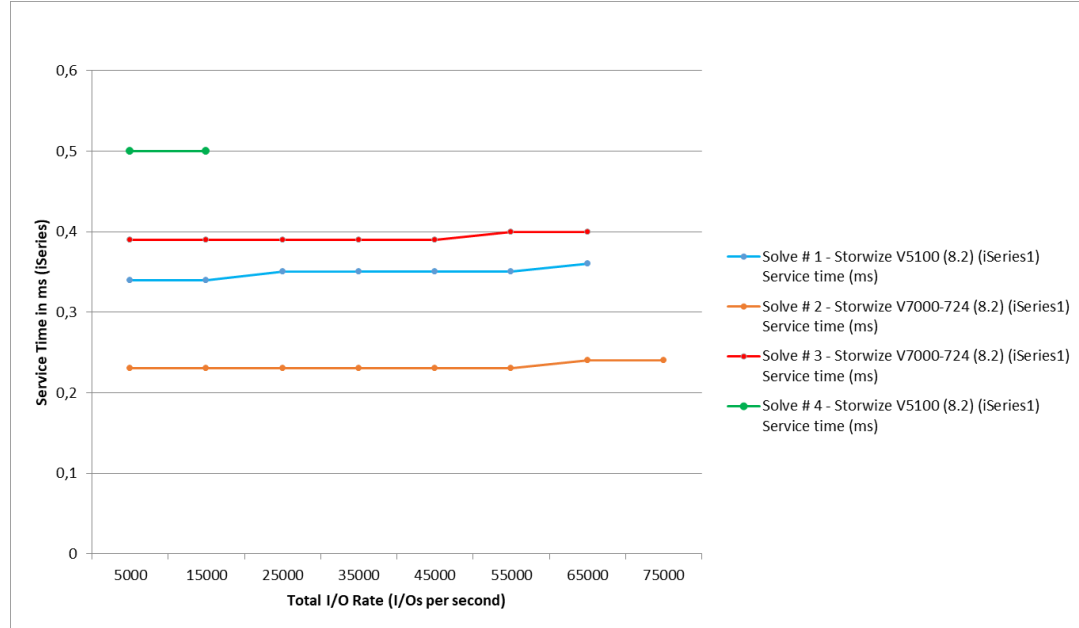
Title:

Subtitle:

Output: Excel Full update

File: newgraph.txt Append

Clear New sheet Plot History PowerPoint Redo Close Help



W E R C

The image features the letters 'W', 'E', 'R', and 'C' in a large, white, sans-serif font. Each letter is filled with a different professional photograph. The 'W' shows a woman with dark hair in a green top. The 'E' shows a man in a green patterned shirt smiling. The 'R' shows a woman in a light blue top with her hands clasped. The 'C' shows a man in a blue suit and yellow tie. To the right of the 'C' is a vertical strip showing a man in a blue suit and glasses. The letters have a slight drop shadow.