Centreon Documentation

Release 1.4.0

Merethis

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Contents

Centreon-Connector-AS/400 is a java program responsible for collecting indicators on AS/400 iSeries IBM equipment.

It uses JTOpen library, open source "IBM Toolbox for Java" implementation. This library support all communication between client/server to manipulate available AS/400 API more efficiently.

Centreon-Connector-AS400 is compatible with AS/400 Version 4 Release 5 or higher. (V4R5).

Note: All versions have not been tested. Some APIs may not be available on old AS/400.

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Installation

1.1 Prerequisites

Software	Minimum	
Centreon	2.2.x	
Nagios	3.x	
Java	JRE 6 Oracle	
AS/400	V4R5+	

1.1.1 Hardware recommendations

It is necessary to evaluate material resources before installing Centreon-Connector-AS400 on a server.

- ** ** RAM: 512 MB minimum (may increase significantly with the number of control).

 - Count 2 GB for 2500 services with a 10 minute interval between each control.

- ** CPU **: prerequisite identical to the collection server

1.1.2 List of used ports

Source	Target	Port	Can be changed
Plugin	Connector	Custom	Yes

List of ports between the connector and the AS400

Standard	SSL
446	448
449	
8470	9470
8471	9471
8472	9472
8473	9473
8474	9474
8475	9475
8476	9476

A detailed list of the ports used by the AS400 can be found on this page.

1.2 Installing from package (RPM)

1.2.1 Prerequisites

A recent installation of CES with centreon-plugin-pack.

1.2.2 Installation

Run the command:

```
$ yum install centreon-connector-as400-server ces-plugins-Operatingsystems-As400 ces-pack-Operatingsy
```

Then start the daemon:

```
$ /etc/init.d/centreon-connector-as400 start
```

1.3 Installing from tarball (tar.gz)

Tarball installation is not recommended

1.3.1 Prerequisites

To build Centreon-Connector-AS400 check plugin, you will need the following external dependencies:

a C++ compilation environment. CMake (>= 2.8), a cross-platform build system. the Qt (>= 4.7.4) framework with QtCore, and QtXml modules. GnuTLS (>= 2.0), a secure communications library.

1.3.2 Installing daemon

Unzip tarball:

```
 $ cd /tmp/ && tar xvzf centreon-connector-as400-server-1.x.x.tar.gz
```

Start the installation::

```
 $ /tmp/centreon-connector-as400-server-1.x.x/install.sh
```

1.3.3 Installing check plugin

Check plugin must be compiled:

```
$ cd /tmp/centreon-connector-as400-server-1.x.x/connector.plugins/
$ cmake && make
```

Then copy the as400 check plugin to the nagios libexec folder

```
$ cp /tmp/centreon-connector-as400-server-1.x.x/connector.plugins/as400_generic/check_merethis_as400
```

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Upgrade

2.1 Upgrading from package (RPM)

2.1.1 Upgrade

Stop the connector service:

```
$ /etc/init.d/centreon-connector-as400 stop
```

Upgrade the rpm:

```
$ yum update centreon-connector-as400-server ces-plugins-Operatingsystems-As400
```

Restart the connector service:

```
$ /etc/init.d/centreon-connector-as400 start
```

Exploitation

3.1 Operating mode

Centreon-Connector-AS400 can run in daemon mode or command line. It's also packaged with check plugin, connecting to the daemon, and responsible to transmitt the results to engine/nagios.

3.1.1 Command line

With command line, a java virtual machine is started each time. This mode should be used only for testing purposes, toi avoid high CPU / memory consomption:

```
+------------------------------------------------------------------------------------------
| java -jar connector-as400-1.x.x.jar -I -H %HOST% --login %LOGIN% --password %PASSWORD% -C %CHECK% -
+------------------------------------------------------------------------------------------
```

Enter the different arguments:

Attribute	Description	Exemple
HOST	IP address or host name of the AS/400	10.30.10.30
LOGIN	AS/400 user name	USER123
PASSWORD	AS/400 password	PASSWORD123
CHECK	Check command	cpuUsage
ARGS	Check command arguments	80!90

Note: The command arguments are separated by " ! " .

3.1.2 Daemon

The daemon mode permit to launch the same commands than from command line without having to restart a java virtual machine at each use. The daemon listens on a port, waiting for query. A check plugin (check_merethis_as400_generic) is available to connect to the daemon and return a result to the Nagios format. Check plugin arguments are similar to the java program. However, it is necessary to specify the address and port of the daemon:

```
+------------------------------------------------------------------------------------------
| check_merethis_as400_generic \-\-connector %DAEMONHOST%:%DAEMONPORT% \-\-host %HOST% \-\-user %USER
+------------------------------------------------------------------------------------------
```

Enter the different arguments:

Attribut	Description	Exemple
DAEMONHOST	IP address or host name of the server executing daemon	10.30.10.20
DAEMONPORT	Daemon port	8091
HOST	IP address or host name of the AS/400	10.30.10.30
LOGIN	AS/400 user name	USER123
PASSWORD	AS/400 password	PASSWORD123
CHECK	Check command	cpuUsage
ARGS	Check command arguments	80!90

Note: The command arguments are separated by ” ! ” .

3.2 Centreon configuration

Template configuration in Centreon are on necessary when using the tarball installation. To fully exploit Centreon-Connector-AS400, it is recommanded to perform a series of actions.

3.2.1 Create a generic check command

Go to the « Configuration → Commande » menu and create a ” check_as400_generic ” command.

Insert the command:

$USER1$/check_merethis_as400_generic –connector “$_HOSTDAEMONHOST$:$_HOSTDAEMONPORT$”
–host “$HOSTADDRESS$” –user “$_HOSTAS400USER$” –password “$_HOSTAS400PASSWORD$” –check
“$_SERVICECHECK$” –args “$_SERVICEARGS$”

This command has a series of macros used at different level of host templates , hosts, service templates, services.

Macro prefixed with HOST are retrieved from the host definition (or host template). Macros prefixed with SERVICE are retrieved from the service definition. (or service template) .

Macro name	Macro value	Resource where the macro must be defined (recommanded)
DAEMON-HOST	IP or hostname of the server running the daemon AS/400	Lowest level AS/400 host template
DAEMON-PORT	Daemon port	Lowest level AS/400 host template
AS400USER	AS/400 user name	AS/400 Host
AS400PASSWORD	AS/400 password	AS/400 Host
CHECK	Check command	Service or AS/400 model service of the highest level
ARGS	Check command arguments	Service or AS/400 model service of the highest level

3.2.2 Create a generic host template

Go to the menu « Configuration → Hosts → Templates » and create an host template « as400 ». This model will be the lowest level host template for all AS/400 hosts. Other higher level host template can be created . Configure all the fields as shown in Centreon documentation.

Define the following macros :

Macro name	Macro value
DAEMONHOST	Exemple : 10.30.10.30
DAEMONPORT	Exemple : 8091

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3.2.3 Create an as400 host

Go to the " Configuration → Hosts " menu and create an host based on the host template "as400" generic (or a higher-level host template based on the template "as400" generic) .

Define the following macros:

Macro name	Macro value
AS400USER	Exemple : USER123
AS400PASSWORD	Exemple : PASSWORD123

3.2.4 Create a service template or service

Go « Configuration → Services » or « Template », and create a service or service template

Define the following maccro

Macro name	Macro value
CHECK	Exemple : cpuUsage
ARGS	Exemple : 80!90

The various commands and arguments are explained in the " List of indicators "

3.3 Indicator list

Depending of the used API, user rights on AS/400 may vary. They are specified in each control.

3.3.1 CPU usage

Description

Description	Controls the time rate AS/400 CPU was used	
Operation	Ok if the CPU time rate is below warning threshold Warning if the cpu time rate goes above warning threshold Critical if the cpu time goes above critical threshold Can exceed 100% on uncapped partition	
Used API	QWCRSSTS, format SSTS0100 & SSTS0200	
Required authority	*USE	

Command argument

Command name	Number of arguments	Arguments		
cpuUsage	2	Arguments order	Description	Exemple
		Argument 1	Warning threshold (%)	80
		Argument 2	Critical threshold (%)	90
Metrics returned	usage=xx%			

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Network usage

Download (as400 vers connector)	Download (as400 vers connector)
1,7 ko	1.5 ko

Configuration exemple

Macro name	Macro value
CHECK	cpuUsage
ARGS	80!90

3.3.2 Check the usage rate of ASP1 (asp1Usage)

Description

Description	Contrôle le taux d'occupation de l'ASP1.
Operation	Ok if the usage rate is below warning threshold Warning if the usage rate is above warning threshold Critical if the usage rate is above critical threshold
Used API	QWCRSSTS, format SSTS0100 & SSTS0200
Required authority	*USE

Command argument

Command name	Number of arguments	Arguments		
asp1Usage		Arguments order	Description	Exemple
		Argument 1	Warning threshold (%)	80
		Argument 2	Critical threshold (%)	90
Metrics returned	usage=xx%			

Network usage

Download (as400 vers connector)	Upload (connector vers as400)
1,5 ko	1.1 ko

Configuration exemple

Macro name	Macro value
CHECK	asp1Usage
ARGS	80!90

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3.3.3 Check the operating status of all physical disks (diskState)

Description

Descrip-tion	Check the operating status of all physical disks
Operation	A physical disk may take several state : no control, active, failed, hardware failure, rebuild, not ready, protected, busy, not operational, unknown state (13 états au total). Ok if all disks are active Critical if at least 1 disk is in a different state than active
Used API	QYASPOL, format YASP0300, QGYGTLE, QGYCLST
Required authority	*USE

Command argument

Command name diskState	Number of arguments 0	Arguments Arguments order X	Description X	Exemple X
Metrics returned	totaldisk=x activedisk=x			

Network usage

Download (as400 vers connector) 4,1 ko	Upload (connector vers as400) 4,3 ko

Configuration exemple

Macro name CHECK	Macro value diskState

3.3.4 Check usage rate of a physical disk (Diskusage)

Description

Descrip-tion	Check usage rate of a physical disk
Operation	Ok if usage is below the warning threshold. Warning si le taux d'occupation est au dessus du seuil warning. Critical si le taux d'occupation est au dessus du seuil critique.
Used API	QYASPOL, format YASP0300, QGYGTLE, QGYCLST
Required authority	*USE

Command argument

Command name	Number of arguments	Arguments		
diskUsage	3	Arguments order	Description	Exemple
		Argument 1	Disk name	DD003
		Argument 2	Warning threshold (%)	80
		Argument 3	Critical threshold (%)	90
Metrics returned	totalSpace=123456B usedSpace=12345B systemSpace=1234B			

Network usage

Download (as400 to connector)	Upload (connector to as400)
700 o	700 o

Configuration exemple

Macro name	Macro value
CHECK	diskUsage
ARGS	DD003!80!90

3.3.5 Check the gap usage rate between the different physical disks

Description

Description	Check the gap usage rate between the different physical disks.	
Operation	Calculate the difference between the minimum and maximum usage of all physical disks. Ok if the difference is below the warning threshold. Warning if the difference is above the warning threshold. Critical if the difference is above the critical threshold.	
Used API	QYASPOL, format YASP0300, QGYGTLE, QGYCLST	
Required authority	*USE	

Command argument

Command name	Number of arguments	Arguments		
diskUsageRepartition	2	Arguments order	Description	Exemple
		Argument 1	Warning threshold (%)	0.5
		Argument 2	Warning threshold (%)	2
Metrics returned	gap=xx%			

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Network usage

Download (as400 to connector) 750 o	Upload (connector to as400) 750 o

Configuration exemple

Macro name	Macro value
CHECK	diskUsageRepartition
ARGS	0.5!2

3.3.6 Check the existence of a sub system (subSystemExist)

Description

Description	Check the existence of a sub system
Fonction-nement	A subsystem may take status: *ACTIVE, *ENDING, *INACTIVE, *RESTRICTED, or *STARTING. Ok if the subsystem is in state *ACTIVE. Critical if the subsystem is in an other status than * ACTIVE or that the subsystem has not been found.
Used API	QWCRSSTS, format SSTS0100 & SSTS0200
Required authority	*USE

Command argument

Command name subSystemExist	Number of arguments 1	Arguments Arguments order Argument 1 Argument 2	Description Subsystem name Library name	Exemple QBATCH QSYS.LIB
Metrics returned	X			

Network usage

Download (as400 to connector) 5,5 ko	Upload (connector to as400) 2,1 ko

Configuration exemple

Macro name	Macro value
CHECK	subSystemExist
ARGS	QBATCH !QSYS.LIB

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3.3.7 Check the rate of page fault (pagefault)

Description

Descrip- tion	Check the rate of page fault	
Operation	Get the page rate per second, and the page fault rate per second, database and non-database. Calculate the rate of page fault relative to the page. Ok if this rate is below the warning threshold. Warning if this rate is above the warning threshold. Critical if this rate is above the critical threshold.	
Used API	QWCRSSTS, format SSTS0100 & SSTS0200	
Required authority	*USE	

Command argument

Command name	Number of arguments		Arguments			
pageFault	2		Arguments order	Description		Exem- ple
			Argument 1	Warning threshold (%)		50
			Argument 2	Critical threshold (%)		70
Metrics returned	dbPageFaultRatio=10% nonDbPageFaultRatio=20%					

Network usage

Download (as400 to connector) 15 ko	Upload (connector to as400) 12 ko

Configuration exemple

Macro name	Macro value
CHECK ARGS	pageFault 50!70

3.3.8 Check the existence of a job. Does not control its state (jobExist)

Description

Description	Check the existence of a job. Does not control its state
Operation	Ok if the job exist Critical if the job doesn't exist
Used API	QGYOLJOB format OLJB0200, QGYGTLE, QGYCLST
Required authority	*USE

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Command argument

Command name jobExist	Number of arguments 1	Arguments		
		Arguments order	Description	Exemple
		Argument 1	Job name	QCTL
		Argument 2	Subsystem name	QBASE
Metrics returned				

Network usage

Job count on server	Download (as400 to connector)	Upload (connector to as400)
1 (théorique)	77 o	2,3 o
10000	750 ko	23 ko

Configuration exemple

Macro name	Macro value
CHECK	jobExist
ARGS	QCTL !QBASE

3.3.9 Check the existence of a job. Check if the job has no MSGW (jobHasNoMsgw)

Description

Description	Check the existence of a job. Check if the job has no MSGW
Fonctionnement	Ok if the job exist Critical if the job doesn't exist, or the job has a message wait (MSGW)
Used API	QGYOLJOB format OLJB0200, QGYGTLE, QGYCLST
Required authority	*USE

Command argument

Command name jobHasNoMsgw	Number of arguments 1	Arguments		
		Arguments order	Description	Exemple
		Argument 1	Job name	QCTL
		Argument 2	Subsystem name	QBASE
Metrics returned				

Network usage

Job count on server	Download (as400 to connector)	Upload (connector to as400)
1 (théorique)	77 o	2,3 o
10000	750 ko	23 ko

Exemple de configuration

Macro name	Macro value
CHECK	jobHasNoMsgw
ARGS	QCTL!QBASE

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3.3.10 Check the amount of jobs with a message wait (MSGW) (allJobHaveN-oMsgW)

Description

Description	Control all jobs , the as400 , and check that they are not waiting for a message (MSGW)
Operation	OK if the number of job waiting for a message is less or equal to the warning count WARNING if the number of job waiting for a message is less than the critical count CRITICAL if the number of job waiting for a message is equal or greater to the critical count
Used API	QGYOLJOB format OLJB0200, QGYGTLE, QGYCLST
Required authority	*USE

Command argument

Command name allJobHaveNoMsgW	Number of arguments 1	Arguments		
		Arguments order	Description	Exemple
		Argument 1	Warning threshold (amount)	1
		Argument 2	Critical threshold (amount)	2
Metrics returned	totalJob=1234 jobMSGW=1			
Output returned	Job name waiting for messages			

Network usage

Amount of jobs on the server	Download (as400 to connector)	Upload (connector to as400)
1 (theoretic)	77 o	2,3 o
10000	750 ko	23 ko

Configuration exemple

Macro name	Macro value
CHECK	allJobHaveNoMsgW
ARGS	1!2

3.3.11 Check the amount of jobs with a message wait (MSGW) in a specific file system (allJobHaveNoMsgWInSubSystem)

Description

Description	Control all jobs in a specific file system, and check that they are not waiting for a message (MSGW)
Operation	OK if the number of job waiting for a message is less or equal to the warning count WARNING if the number of job waiting for a message is less than the critical count CRITICAL if the number of job waiting for a message is equal or greater to the critical count
Used API	QGYOLJOB format OLJB0200, QGYGTLE, QGYCLST
Required authority	*USE

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Command argument

Command name allJobHaveNoMsgWInSubSystem	Number of arguments 1	Arguments		
		Arguments order	Description	Exemple
		Argument 1	SubSystem name	QBASE
		Argument 2	Seuil Warning (quantité)	1
		Argument 3	Seuil Critical (quantité)	2
Metrics returned	totalJob=1234 jobMSGW=1			
Output returned	Job name waiting for messages			

Network usage

Amount of jobs on the server	Download (as400 to connector)	Upload (connector to as400)
1 (theoretic)	77 o	2,3 o
10000	750 ko	23 ko

Configuration exemple

Macro name	Macro value
CHECK	allJobHaveNoMsgWInSubSystem
ARGS	QBASE!1!2

3.3.12 Existence of the backup job (backupJobExist)

Description

Description	Control the existence of the backup job RBT_DDMMYY . Does not control it's status
Operation	Ok if job exist Critical if the job does not exist. DDMMYY is the day of the check eecution. Date is the date from as400 server
Used API	QGYOLJOB format OLJB0200, QGYGTLE, QGYCLST
Required authority	*USE

Command argument

Command name backupJobExist	Number of arguments	Arguments		
		Arguments order	Description	Exemple
		Argument 1	X	X
Metrics returned				

Network usage

Nombre de jobs présent sur le serveur	Download (as400 vers connector)	Upload (connector vers as400)
1 (théorique)	77 o	2,3 o

Exemple de configuration

Macro name	Macro value
CHECK	backupJobExist

3.3.13 Check the existence and status of a jobQueue (jobQueueStatus)

Description

Description	Check the existence and status of a jobQueue
Operation	A jobQueue can have status RELEASED or HELD. OK if the jobQueue is in RELEASED state
	Critical if the jobQueue is in HELD status or doesn't exist
Used API	QSPRJOBQ, format JOBQ0100 & JOBQ0200
Required	*USE, *EXECUTE sur la jobQueue Library, *READ sur la jobQueue* JOBCTL sur les JobQueue
authority	contrôlé par OPRCTL(*YES)

Command argument

Command name	Number of arguments	Arguments		
jobQueueStatus	2	Arguments order	Description	Exemple
		Argument 1	JobQueue name	QSYSNOMAX
		Argument 2	Library name	QSYS
Metrics returned	X			

Network usage

Download (as400 vers connector)	Upload (connector vers as400)
1,7 ko	1,9 ko

Configuration exemple

Macro name	Macro value
CHECK	jobQueueStatus
ARGS	QSYSNOMAX!QSYS

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3.3.14 Check amount of job waiting in a jobQueue disregarding jobs priorities (jobQueueWaitJobCount)

Description

Description	Check amount of job waiting in a jobQueue disregarding jobs priorities
Fonc-tion-nement	The jobs in a jobs queue can be ACTIVE, HELD, ou SCHEDULED. Ok if the job count in HELD state is below the warning threshold. Warning if the job count in HELD state is above the warning threshold. Critical if job count in HELD state is above the critical threshold.
API utilisée	QSPRJOBQ, format JOBQ0100 & JOBQ0200
Autorité requise	*USE, *EXECUTE sur la jobQueue Library, *READ sur la jobQueue*JOBCTL sur les JobQueue contrôlé par OPRCTL(*YES)

Command argument

Command name	Number of arguments	Arguments		
jobQueueWait-JobCount	4	Arguments order	Description	Exemple
		Argument 1	JobQueue name	QSYSNO-MAX
		Argument 2	Library name	QSYS
		Argument 3	Warning threshold (amount)	1
		Argument 4	Critical threshold (amount)	2
Metrics returned	activeJob=44 heldJobOnQueue=0 scheduledJobOnQueue=0			

Network usage

Download (as400 to connector)	Upload (connector to as400)
750 o	800 o

Configuration exemple

Macro name	Macro value
CHECK	jobQueueWaitJobCount
ARGS	QSYSNOMAX!QSYS!1!2

3.3.15 Check amount of job in a subsystem with a specific status

Description

Description	Check amount of job in a subsystem with a specific status
Operation	OK si le nombre de job en attente de message est inférieur ou égal au warning count WARNING si le nombre de job en attente de message est inferieur au "critical count » CRITICAL si le nombre de job en attente de message est superieur ou égal au « critical count ».
Used API	QGYOLJOB format OLJB0200, QGYGTLE, QGYCLST
Required authority	*USE

Command argument

Command name specificJobInSub-System	Number of arguments 8	Arguments arguments order	Description	Exemple
		Argument 1	Job pattern (regex)	^JOBC.*$
		Argument 2	SubSystem	QBASE
		Argument 3	Status	*ANY
		Argument 4	StatusActive	ANY
		Argument 5	Warning minimal threshold (amount)	2
		Argument 6	Warning maximal threshold (amount)	5
		Argument 7	Critical minimal threshold (amount)	1
		Argument 8	Critical maximal threshold (amount)	10
Metrics returned	foundJob=123 statusMatchingJob=1			
Output returned	Amount of job found matching pattern and status			

All Status and StatusActive can be found here : http://publib.boulder.ibm.com/iseries/v5r1/ic2924/index.htm?info/apis/qusrjobi.htm

Centreon-Connector-AS400 add 1 status (*ANY) and 1 statusActive (ANY), to match all existing status.

Status can have value: *ANY, *OUTQ, *ACTIVE, *JOBQ StatusActive can have value: BSCA, BSCW, CMNA, CMNW, CMTW ... (see IBM documentation)

Network usage

Amount of jobs on the server	Download (as400 to connector)	Upload (connector to as400)
1 (theoretic)	77 o	2,3 o
10000	750 ko	23 ko

Configuration exemple

Macro name	Macro value
CHECK	specificJobInSubSystem
ARGS	QBASE!1!2

3.3.16 Controle le nombre de job running (RUN) dans un sous systeme spécifique

Description

Description	Controle l'ensemble des jobs d'un sous systeme en état running
Fonction-nement	OK si le nombre de job en attente de message est inférieur ou égal au warning count WARNING si le nombre de job en attente de message est inferieur au "critical count » CRITICAL si le nombre de job en attente de message est superieur ou égal au « critical count ».
API utilisée	QGYOLJOB format OLJB0200, QGYGTLE, QGYCLST
Autorité requise	*USE

Arguments de la commande

String jobPattern, String subSystem, int warningMin, int warningMax, int criticalMin, int criticalMax

Nom de la commande specificJobRunningIn-SubSystem	Nombre d'argument 6	Arguments		
		Ordre des arguments	Description	Exem-ple
		Argument 1	Job pattern (regex)	^JOBC.*$
		Argument 2	Sous system	QBASE
		Argument 3	Seuil Warning minimal (quantité)	2
		Argument 4	Seuil Warning maximal (quantité)	5
		Argument 5	Seuil Critical minimal (quantité)	1
		Argument 6	Seuil Critical maximal (quantité)	10
Métriques renvoyées	totalJob=123 jobMSGW=1			
Output renvoyé	Le nom des jobs en attente de message			

Network usage

Amount of jobs on the server	Download (as400 to connector)	Upload (connector to as400)
1 (theoretic)	77 o	2,3 o
10000	750 ko	23 ko

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Configuration exemple

Macro name	Macro value
CHECK	allJobHaveNoMsgWInSubSystem
ARGS	QBASE!1!2

3.3.17 Check the size of a MessageQueue (messageQueueSize)

Description

Descrip-tion	Check the size of a MessageQueue	
Operation	Retrieves all messages whose severity is greater or equal to minimum severity level Ok if the number of messages is below the warning threshold. Warning message if the number is above the warning threshold. Critical if the message number is above the critical threshold.	
Used API	QGYOLMSG format LSTM0100, QGYGTLE, QGYCLST	
Required authority	*USE sur la messageQueue, *EXECUTE sur la messageQueue library	

Arguments de la commande

Command name	Number of arguments	Arguments		
messageQueue-Size	4	Arguments order	Description	Exemple
		Argument 1	MessageQueue name	/QSYS.LIB/QSYSOPR.MSGQ
		Argument 2	Minimum severity level	40
		Argument 3	Warning threshold (amount)	2000
		Argument 4	Critical threshold (amount)	2500
Metrics returned	count=1234			

Network usage

Amount of message in the messageQueue	Download (as400 to connector)	Upload (connector to as400)
1 (théorique)	2,26 ko	66 o
5000	11 mo	325 ko

Configuration exemple

Macro name	Macro value
CHECK	messageQueueSize
ARGS	/QSYS.LIB/QSYSOPR.MSGQ!40!2000!2500

3.3.18 Check to count message in messageQueue (MSGQ) according to their severity and message ID (messageQueueSizeFiltered)

Description

Description	Count amount of messages in messageQueue (MSGQ) according to their severity and message ID (messageQueueSizeFiltered)	
Operation	Retrieves all messages whose severity is between min and max severity level, and whose message ID match the regex Ok if the number of messages is below the warning threshold. Warning message if the number is above the warning threshold. Critical if the message number is above the critical threshold.	
Used API	QGYOLMSG format LSTM0100, QGYGTLE, QGYCLST	
Required authority	*USE sur la messageQueue, *EXECUTE sur la messageQueue library	

Command argument

Command name	Number of arguments	Arguments		
messageQueue-SizeFiltered	6	Arguments order	Description	Exemple
		Argument 1	messageQueue name	/QSYS.LIB/QSYSOPR.MSGQ
		Argument 2	Regex filtering message ID	^CP.*$
		Argument 3	Minimal severity level	60
		Argument 4	Maximal severity level Maximal severity exluded	80
		Argument 5	Warning threshold (amount)	1
		Argument 6	Critical threshold (amount)	2
Metrics returned	count=1234			

Network usage

Amount of message in the messageQueue	Download (as400 to connector)	Upload (connector to as400)
1 (théorique)	2,26 ko	66 o
5000	11 mo	325 ko

Configuration exemple

Macro name	Macro value
CHECK	messageQueueSize
ARGS	/QSYS.LIB/QSYSOPR.MSGQ!^CP.*$!60!80!1!2

3.3.19 Check to count the amount of new messages in a messageQueue (MSGQ) according to their severity and message ID (newMessageInMessageQueue)

Description

Description	Count amount of new messages in a messageQueue (MSGQ) according to their severity and message ID. Display the new logs in output
Operation	Retrieves all messages and store them in a light database. Return the new messages matching criteria in the output. Ok if the number of new messages is below the warning threshold. Warning if the number of new messages is above the warning threshold. Critical if the number of new messages is above the critical threshold.
Used API	QGYOLMSG format LSTM0100, QGYGTLE, QGYCLST
Required authority	*USE on the messageQueue, *EXECUTE one the messageQueue library

Command argument

Command name	Number of arguments	Arguments		
newMessageIn-MessageQueue	6	Arguments order	Description	Exemple
		Argument 1	messageQueue name	/QSYS.LIB/QSYSOPR.MSGQ
		Argument 2	Regex filtering message ID	^CP.*$
		Argument 3	Minimal severity level	60
		Argument 4	Maximal severity level Maximal severity exluded	80
		Argument 5	Warning threshold (amount)	1
		Argument 6	Critical threshold (amount)	2
Metrics returned	criteriaMessage=1 newMessage=3			

Local database configuration

The location of the local database can be configured in the file /etc/centreon-connector-as400/config.properties. Variable is : pathMsgQDB. /!\ Take care with the others options !

Network usage

Amount of message in the messageQueue	Download (as400 to connector)	Upload (connector to as400)
1 (théorique)	2,26 ko	66 o
5000	11 mo	325 ko

Configuration exemple

Macro name	Macro value
CHECK	newMessageInMessageQueue
ARGS	/QSYS.LIB/QSYSOPR.MSGQ!^CP.*$!60!80!1!2

3.3.20 Execute a command on as400

Description

Description	Execute a command on as400	
Operation	Ok if the comamnd is successful Critical if the command does not execute successfully.	
Used API		
Required authority		

Arguments de la commande

Command name	Number of arguments	Arguments		
executeCommand	1	Arguments order	Description	Exemple
		Argument 1	Command name	TEST
Metrics returned	None			
Output	Command return			

Network usage

Download (as400 to connector)	Upload (connector to as400)
variable	800 o

Configuration exemple

Macro name	Macro value
CHECK	executeCommand
ARGS	TEST

Note: The output will only be available if messages have been generated by the executed command.

Generating a message from an AS/400 CL program:

```
SNDPGMMSG MSGID(CPF9898) MSGF(QCPFMSG) + MSGDTA('Ceci est un message') + TOPGMQ(*EXT)
MSGTYPE(*STATUS)
```

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3.3.21 Get the number of problems detected by the system or the user

Description

Descrip-tion	Get the number of problems detected by the system or the user
Fonction-nement	OK if the number of problems is lower or equal to the warning count WARNING if the number or problems is lower to the critical count CRITICAL if the number of problem is higher or equal to the critical count
API utilisée	
Autorité requise	*USE

Command argument

Command name	Number of arguments	Arguments		
allJobHaveN-oMsgW	n * 2 + 1	Argument's order	Description	Exam-ple
		Argument 1	Types of problems wanted	1
		Argument 2	Warning Threshold	2
	Repeat threashold for each type of problem wanted	Argument 3	Critical Threashold	2
Sent metric	open=1;;;2;4 ready=0;;2;3			
Sent output	OK: There are 1 OPENED / 0 READY statys problems			

Configuration example

Macro name	Macro value
CHECK	workWithProblem
ARGS	1!2

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Release note

4.1 1.0

4.1.1 1.0.0

Features

13 new checks :

- Check usage rate of a physical disk (Diskusage)
- Check CPU usage (CPUUsage)
- Check the usage rate of ASP1 (asp1Usage)
- Check the operating status of all physical disks (DiskState)
- Check the gap usage rate between the different physical disks (diskUsageRepartition)
- Check the existence of a job. Does not control its state (jobExist)
- Check the existence of the backup job RBT_DDMMYY. Does not control its state (backupJobExist)
- Check the existence of a job. Check if the job has no MSGW (jobHasNoMsgw)
- Check the size of a MessageQueue (messageQueueSize)
- Check the rate of page fault (pagefault)
- Check the existence and status of a jobQueue (jobQueueStatus)
- Check amount of job waiting in a jobQueue disregarding jobs priorities (jobQueueWaitJobCount)
- Check the existence of a sub system (subSystemExist)

4.2 1.1

4.2.1 1.1.0

Enhancement

- Specifiy used subsystem in the checks jobHasNoMsgw, jobExist & backupJobExist

4.3 1.2

4.3.1 1.2.0

Feature

- Ability to execute a command on as400

4.4 1.3

4.4.1 1.3.0

Feature

1 new check :

- Check to count amount of job with a message wait (MSGW)

4.4.2 1.3.1

Enhancement

- Limit the check to only active job

4.5 1.4

4.5.1 1.4.0

Feature

1 new check :

- Check to count message in messageQueue (MSGQ) according to their severity and message ID

4.5.2 1.4.1

BugFix

- Output limited to 4096 characters

4.5.3 1.4.2

BugFix

- regex are no more allowed in subsystem name

---

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4.6 1.5

4.6.1 1.5.0

Feature

2 new checks :

- Check all jobs in a specific subsystem and count job with messageWait (MSGW)
- Check all running job in a specific file system

4.6.2 1.5.1

BugFix

- Retrieving of some job attributes while loading the jobs list

4.7 1.6

4.7.1 1.6.0

Feature

1 new check :

- [specificJobActiveInSubSystem] Check to count the amount of jobs in a subsystem, and matching a specific pattern

4.7.2 1.6.1

BugFix

- Allow warning min/max thresholds below critical min/max thresholds

4.8 1.7

4.8.1 1.7.0

Feature

1 new check :

- [newMessageInMessageQueue] : Check the amount of new message in a messageQueue. Store the previous logs in a light local DB

4.8.2 1.7.1

BugFix

- Remove | in messageQueue check output.
- On the check messageQueueSizeFiltered, the message status is taken into account. If an answer has already been given to it, it's excluded from the check.
- The check JobQueueWaitingJob was always returning "OK".
- Fix SQL error on check newMessageInMessageQueue
- Fix messages overlaping for check newMessageInMessageQueue when this check is used in different services on the same message queue.
- Add message severity on output for newMessageInMessageQueue check

4.8.3 1.7.2

BugFix

- Fix an issue linked to h2 connection close for check newMessageInMessageQueue

4.8.4 1.7.3

BugFix

- Fix job related checks when there is a lot of jobs on the AS400 (only retreive active jobs)
- Update JTOpen library to latest version (8.7)

4.8.5 1.7.4

BugFix

- Increase (drastically) performances for check newMessageInMessageQueue and reduce network stream.

4.8.6 1.7.5

BugFix

- newMessageInMessageQueue : Handle the case where the queue is flushed

4.8.7 1.7.6

BugFix

- newMessageInMessageQueue : Fix redundant messages comming from the check

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4.9 1.8

4.9.1 1.8.0

Features

1 new check:

- Check the number of active problems (WorkWithProblem).

4.9.2 1.8.1

BugFix

- Reset statistics between to CPU checks if the AS400 session was not closed.
- Technical: Update JTOpen library from 8.7 to 9.1.

4.9.3 1.8.2

BugFix

- Improve WorkWithProblem check.

4.9.4 1.8.3

BugFix

- Fix CPU measures.