iBelieve

Présent et Futur de l'IBM i 2024

10 Octobre 2024
Événement Online

Objectif IBMi

Monitorisez l'IBM i
avec les mêmes outils que
les autres serveurs de l'entreprise

Qui est M81

Editeur indépendant de logiciels (ISV) européen
Spécialisé dans les logiciels système pour IBM i

- **Control for i**
 - Cette présentation
- **Flash for i**
 - Faire une SAVE21 tous les jours sans arrêter la production

Entreprise créée il y a **10** ans

48 partenaires

23 pays

Plus de 600 clients finaux

Plus de 1000 partitions

Où sont les produits de M81

CONTROL

for for Business

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Surveillance de l'infrastructure informatique

Surveillance de l'infrastructure informatique

Surveillance de l'infrastructure informatique

Une personne (ou une équipe) dédiée à la surveillance

- Niveau 1
 - Actions en utilisant des procédures
 - Meilleure réactivité
- Permet de soulager les administrateurs Windows, Linux, ...
 - Ils peuvent se consacrer à d'autres tâches
 - Analyse des incidents les plus fréquents pour les éliminer

Gain de temps / ROI

Pourquoi l'IBM i est-il exclu de cette surveillance de l'entreprise ?

Pourquoi IBM i n'est pas surveillé par l'outil Enterprise ?

Pourquoi IBM i n'est pas surveillé par l'outil Enterprise ?

Pourquoi IBM i n'est pas surveillé par l'outil Enterprise ?

Serveur très stable

- pas besoin de contrôle

Un administrateur IBM i très compétent

- toujours disponible
- très impliqué dans le suivi de "son" système

Ou même parfois, pas d'administrateur du tout

- Justement parce que ce système est très stable

Pourquoi IBM i n'est pas surveillé par l'outil Enterprise ?

Mais il y a parfois des surprises et c'est un désastre

Pas de sauvegardes pendant 2 mois

La haute disponibilité n'est pas synchronisée

- plusieurs fichiers ne sont plus répliqués

L'espace disque est saturé

...

Surveillance de l'infrastructure informatique

**Domage d'avoir une infrastructure
de surveillance d'entreprise
Et ne pas en profiter
pour l'IBM i.**

Pourquoi IBM i n'est pas surveillé par l'outil Enterprise ?

Autres raisons ?

L'équipe de surveillance vient du "monde open".

- Windows, Linux, Unix, (machines à café avec IP)

Les administrateurs IBM i ne parlent pas le même langage

Des plugins existent pour superviser IBM i avec Nagios mais

- Syntaxe de type Linux
- Logique de type Linux
- Pas facile à tester pour les administrateurs IBM i
- Il s'agit uniquement de contrôles système. Pas de contrôles applicatifs

Plugin IBM pour Nagios

check-ibmi-active-job-num

```
check_ibmi_status.sh -M ActiveJobs -W $ARG1$ -C $ARG2$
```

check-ibmi-subsystem-jobs

```
check_ibmi_status.sh -M SubsystemJobs -S $ARG1$ -W $ARG2$ -C $ARG3$
```

check-ibmi-specific-message

```
check_ibmi_status.sh -M SpecificMessage -I $ARG1$
```

Surveillance en temps réel d'IBM i

Le produit « CONTROL »
for .

permet de surveiller une partition IBM i

en utilisant des commandes développées sur IBM i

- ✓ Ces commandes sont **naturelles** pour les spécialistes IBM i
- ✓ Facile à tester **sur IBM i avant** de les intégrer dans Nagios
- ✓ **Installation et paramétrage très simples** dans Nagios (ou autres),
- ✓ Il est possible d'adapter facilement les programmes **existants** dans "Control for i", ou d'en développer de **nouveaux**

➔ '**Control for i**' LE produit de surveillance pour **IBM i**
développé par des spécialistes IBM i

Démo en direct

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Démonstration

The screenshot displays a monitoring interface with a dark header bar. On the left, there is a vertical sidebar with icons for home, monitoring, and settings. The main content area shows a breadcrumb trail: Monitoring > Status Details > Hosts. Below this, there are filters for Host Status (set to 'All'), Host (empty text box), Status (dropdown), and Poller (empty text box). A 'More actions...' dropdown and a refresh button are also present. The central part of the interface is a table with columns: Hosts, Status, IP Address, Last Check, Duration, and Tries. The table lists 12 hosts, all of which are in an 'UP' status. Each host entry includes a checkbox, a small bar chart icon, and a status indicator. At the bottom, there is another 'More actions...' dropdown.

☐	Hosts	Status	IP Address	Last Check	Duration	Tries
☐	Centeon-central	UP	127.0.0.1	3m 51s	5M 1w	1/3 (H)
☐	CLONE1	UP	10.43.43.71	2m 16s	1d 14h	1/3 (H)
☐	CLONE2	UP	10.43.43.72	5m 1s	14h 30m	1/3 (H)
☐	FTP	UP	10.43.43.75	3m 51s	2M 6d	1/3 (H)
☐	FTP_Remote	UP	10.43.43.75	7m 31s	2M 2w	1/1 (H)
☐	HMC_Demo	UP	10.43.43.65	3m 36s	6d 2h	1/3 (H)
☐	M81Flash_Rmt	UP	10.43.43.46	7m 46s	1w 1d	1/1 (H)
☐	PROD	UP	10.43.43.70	3m 51s	2M 6d	1/3 (H)
☐	Proxy	UP	10.43.43.82	3m 16s	6d 2h	1/3 (H)
☐	Windows_2016	UP	10.43.43.68	16s	1d 3h	1/3 (H)
☐	Windows_Server	UP	10.43.43.68	4m 51s	1d 3h	1/3 (H)

Démonstration

Monitoring > Status Details > Services

Service Status: All | Status: | Poller: | Host: prod | Service: | Hostgroup: | Servicegroup: |

More actions... | 1 2 >>

Hosts	Services	Status	Duration	Hard State Duration	Last Check	Tries	Status information
☐	PROD Backup_available_cartridges	OK	13h 8m	N/S	3m 28s	1/3 (H)	CTL1171 - Ok, 8 volume(s) available, inside the limits defined. Media class : VRT256K, location : *ANY, system : *ANY
☐	Backup_BRMS	OK	1w 1d	1w 1d	9h 43m	1/3 (H)	CTL1161 - 1 BRMS saves OK. Volumes used: BAND10, BAND01,
☐	BRMS Messages	OK	14h 51m	14h 51m	1m	1/3 (H)	CTL1421 - No error message found for scenario BRMS_ERR.
☐	Check QBATCH	OK	14h 51m	14h 51m	1m 53s	1/3 (H)	CTL1015 - The QBATCH subsystem is in the *RUN state
☐	Check_SBS_QHTTSPVR	OK	14h 51m	14h 51m	1m 22s	1/3 (H)	CTL1017 - The QHTTSPVR subsystem is in the *RUN state, and all the required jobs are present
☐	Control_for_i_Agent	OK	14h 51m	14h 51m	1m 1s	1/3 (H)	CTL1017 - The CONTROL4I subsystem is in the *RUN state, and all the required jobs are present
☐	Flash_for_i_Agent	OK	14h 51m	14h 51m	1m 1s	1/3 (H)	CTL1017 - The FLASH4I subsystem is in the *RUN state, and all the required jobs are present
☐	Flash_for_i_Backup_Started	OK	2w 1d	N/S	9h 43m	1/3 (H)	CTL1096 - Job FL_SAVE started 1 times and ended 1 times
☐	Flash_for_i_Messages	OK	9h 47m	9h 47m	2m 58s	1/3 (H)	FLA0662 - There are 0 error messages (less than required limit)
☐	LCM subsystem	OK	14h 51m	14h 51m	1m 22s	1/3 (H)	CTL1017 - The LCM subsystem is in the *RUN state, and all the required jobs are present
☐	M3_GRID_Applications_Status	OK	14h 55m	N/S	5m	1/3 (H)	CTL1481 - Ok : the status is good on all applications
☐	M3_GRID_Hosts_Mem	OK	14h 55m	N/S	5m	1/3 (H)	CTL1332 - Every host is online and using less than 80% memory
☐	M3_GRID_Nodes_CPU_and_Mem	OK	14h 55m	N/S	5m 1s	1/3 (H)	CTL1363 - No node is using more than 80% CPU or 80% memory
☐	M3_Job_Status	OK	14h 51m	14h 51m	1m	1/3 (H)	CTL1451 - No job in error since last 24 hours
☐	M3_LifeCycle	OK	14h 51m	14h 51m	1m 51s	1/3 (H)	CTL1015 - The LCM subsystem is in the *RUN state

Démonstration

The screenshot shows the Nagios monitoring interface for a service named 'Service Backup_available_cartridges' in the 'PROD' environment. The interface is divided into a left sidebar with navigation icons and a main content area. The main content area displays the service status as 'OK' and provides detailed information about the service, including performance data, current attempt, state type, and last check details. A 'Detailed Graph' is also visible, showing the service's performance over time.

Monitoring > Status Details > Services

Service Backup_available_cartridges PROD

Status Details

Service Status	OK
Status information	CTL1171 - OK, 8 volume(s) available, inside the limits defined. Media class : VRT256K, location : *ANY, system : *ANY
Extended status information	
Performance Data	VOLAVAIL=8Vo1
Current Attempt	1 / 3
State Type	HARD
Last Check Type	Active
Last Check	July 9, 2023 3:50:24 PM
Next Scheduled Active Check	July Detailed Graph
Latency	0.13
Check Duration	0.05
Last State Change	July
Current State Duration	13h
Last Service Notification	
Current Notification Number	0
Is This Service Flapping?	N/A
Percent State Change	0 %
In Scheduled Downtime?	No
Last Update	

Executed Check Command Line

```
/usr/lib64/nagios/plugins/check_Control41  
-H 10.43.43.70  
-c "CTCHKBRMEX EXPMEDCRIT(1) EXPMEDWARN(2) MEDCLS(VRT256K)"  
-v V02
```

Detailed Graph

Legend: VOLAVAIL

Démonstration

Check expired vol. for BRMS (CTCHKBRMEX)

Type choices, press Enter.

```
Minimum nb volumes critical . . . > 1           1-9999
Minimum nb volumes warning . . . > 2           1-9999
Media class . . . . . > VRT256K           FMOPTUDF, SAVSYS, ...
Location . . . . . > *ANY             *ANY, *HOME, VAULT, IASP2, ...
System name . . . . . > *ANY
```

Additional Message Information

```
Message ID . . . . . : CTL1171           Severity . . . . . : 00
Message type . . . . . : Completion
Date sent . . . . . : 09/07/23           Time sent . . . . . : 17:06:28

Message . . . . . : Ok, 8 volume(s) available, inside the limits defined.
Media class : VRT256K, location : *ANY, system : *ANY | VOLAVAIL=8Vol
```

Service Status

OK

Status information

CTL1171 - Ok, 8 volume(s) available, inside the limits defined. Media class : VRT256K, location : *ANY, system : *ANY

Extended status information

Démonstration

Home Devices Libraries Sensors Alarms Maps Reports Logs Tickets Setup

Devices

Group Root

Overview 2 days 30 days 365 days Alarms Log Management

!! 2 W 5 ✓ 38 ? 2 (of 47) S M L XL ⚙️

- Root
 - Local Probe
 - Probe Device
 - W Core H... ✓ 2 Sens...
 - Network Discovery
 - !! Pagefil... !! CPU Lo... W 1 Sens... ✓ 3 Sens... ? 1 Sens...
 - IBM-i
 - FTP
 - ✓ Available cartri... 8 Volumes ✓ Control for i 0 # ✓ Disk space 312 GB ✓ CPU load 0,90 % ✓ Jobs awaiting ... 0 jobs + Add Sensor
 - PROD
 - ✓ Available cartri... 8 Volumes ✓ Control for i Ok ✓ Disk space 38 % ✓ Disk space evo... -1 % ✓ CPU availability 6,80 % ✓ Jobs awaiting ... Ok ✓ Flash for i jobs Ok ✓ Recover for i Ok ✓ Daily backup Ok ✓ Check
 - ✓ Error message... 0 # ✓ BRMS Errors 2 Ok ✓ Control for i Lo... 0 Msg ✓ CPU without u... 17 # ✓ Check QBATC... Ok ✓ Remote FTP.Di... 111 GB ✓ Total number o... 641 jobs ✓ Check object ... 0 # ✓ Check MSGW j... 0 jobs ✓ Mess
 - M81Flash_Remote
 - W 2 Sens... ? Disk sp...
 - KHP IBM i
 - ✓ Plattenplatz 38 % ✓ MSGW Ok ✓ SBS Control for i 0 # ✓ BRMS Save Ok ✓ Check SBS QH... Ok ✓ Check SBS 0 # ✓ check QBATCH 0 # + Add Sensor

Démonstration

Home Devices Libraries Sensors Alarms Maps Reports Logs Tickets Setup

Devices Local Probe IBM-I PROD

Device PROD ★★★★★

Overview 2 days 30 days 365 days Alarms System Information Log Settings

✓ Available cartridges
CTL1171 - Ok, 8 volume(s) available, inside the limits defined.
Media class : VRT256K, location : *ANY, system : *ANY

VOLAVAIL
8 Volumes

✓ Jobs awaiting an answer
CTL1074 - No job in the MSGW state.

Status
Ok

✓ Flash for i jobs
CTL1017 - The FLASH4I subsystem is in the *RUN state, and all the required jobs are present

Status
Ok

✓ Messages in Flash for i
FLA0662 - There are 0 error messages (less than required limit)

Err
0 #

✓ Disk space
CTL1141 - O...

Rate
38 %

✓ Control for i
CTL1017 - Th...

Status
Ok

Pos	Sensor	Status	Message	Graph	Priority
1.	✓ Available cartridges	Up	CTL1171 - Ok, 8 volume(s) available, inside the limits defined. Media clas...		★★★★★
2.	✓ Control for i	Up	CTL1017 - The CONTROL4I subsystem is in the *RUN state, and all the re...		★★★★☆
3.	✓ Disk space	Up	CTL1141 - Ok : 38% used on a total of 286 GB for the ASP 1.		★★★★☆
4.	✓ Disk space evolution	Up	CTL1141 - Ok : 38% used on a total of 286 GB for the ASP 1.		★★★★☆
5.	✓ CPU availability	Up	CTL1151 - System CPU usage: 7.1%		★★★★☆
6.	✓ Jobs awaiting an answer	Up	CTL1074 - No job in the MSGW state.		★★★★★
7.	✓ Flash for i jobs	Up	CTL1017 - The FLASH4I subsystem is in the *RUN state, and all the requir...		★★★★★
8.	✓ Recover for i	Up	CTL1017 - The BK_SEND subsystem is in the *RUN state, and all the requi...		★★★★☆
9.	✓ Daily backup	Up	CTL1161 - 1 BRMS saves OK. Volumes used: BAND10, BAND01,\nLibrary ...		★★★★☆

Démonstration

✓ **Sensor Available cartridges** 📄 ★★★★★

CTL1171 - Ok, 8 volume(s) available, inside the limits defined. Media class : VRT256K, location : *ANY, system : *ANY

Overview

Live Data

2 days

30 days

365 days

Historic Data

Log

Settings

VOLAVAIL

8 Volumes

0 Volumes

17 Volumes

error

No data

Status

Ok

Channel	ID	Last Value	Minimum	Maximum
Downtime	-4			
error	4	No data	No data	No data
Status	3	Ok	Ok	Ok
VOLAVAIL	2	8 Volumes	6 Volumes	17 Volumes

Similar Sensors

Similarity	Channel	Similar Channel
-	-	-

Démonstration

Basic Sensor Settings

Sensor Name ⓘ Available cartridges

Parent Tags ⓘ

Tags ⓘ

Priority ⓘ ★★★★★

Sensor Settings

The EXE file has to run on the computer where the parent probe is installed, not on the parent probe directory. .vbs files, .ps1 files, or other script files may use different working directories.

EXE/Script ⓘ check_Control4i_prtg.exe

Parameters ⓘ -H %host -c "CTCHKBRMEX EXPMEDCRIT(1) EXPMEDWARN(2) MEDCLS(VRT256K)"

Environment ⓘ Default Environment
 Set placeholders as environment values

Security Context ⓘ Use security context of PRTG probe service
 Use Windows credentials of parent device

Mutex Name ⓘ

Timeout (Sec.) ⓘ 60

Démonstration

Edit Channel "VOLAVAIL"

Name ⓘ
VOLAVAIL

Unit ⓘ
Volumes

Scaling Multiplication ⓘ
1

Scaling Division ⓘ
1

ID ⓘ
2

Lookups and Limits ⓘ
 Enable alerting based on lookups
 Enable alerting based on limits

Upper Error Limit (Volumes) ⓘ

Upper Warning Limit (Volumes) ⓘ

Lower Warning Limit (Volumes) ⓘ
2

Lower Error Limit (Volumes) ⓘ
1

Status

Ok

Edit Channel "Status"

Name ⓘ
Status

Unit ⓘ
#

Scaling Multiplication ⓘ
1

Scaling Division ⓘ
1

ID ⓘ
3

Lookups and Limits ⓘ
 Enable alerting based on lookups
 Enable alerting based on limits

Lookup ⓘ
lookup_control_for_i_prtg

Exemple de commande : "CTCHKSBS"

```
Check subsystem status (CTCHKSBS)

Type choices, press Enter.

Name of the subsystem to check > QBATCH          Name
Library . . . . .                *ANY          Name, *ANY
Status of subsystem to check . . *RUN          *RUN, *STOP
Min number of active jobs . . . . *NOCTL       Number, *NOCTL
Mandatory jobs list . . . . . > JOB01          Name, *NONE
                                   > AUTOMATE1
                                   + for more values > AUTOMATE2
Severity level . . . . .          *CRITICAL    *CRITICAL, *WARNING

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

→ Retour du message IBM i :

```
QBATCH subsystem, 3 job(s) is/are missing. The first 10 are JOB01,
AUTOMATE1, AUTOMATE2, , , , , , , , , .
```

→ La commande :

```
CTCHKSBS SBSD(QBATCH) LSTJOB(JOB01 AUTOMATE1 AUTOMATE2)
```

Démonstration

- 10. Menu for controls of jobs
- 11. Menu for controls of backups
- 12. Menu for controls of High Availability
- 13. Menu for controls of network and IFS
- 14. Menu for others System control commands

- 20. Menu for controls of messages
- 21. Menu for controls of libraries

- 30. Menu for controls related to software M3
- 31. Menu for controls related to software MQ Series

Gestion des messages

```
CTMS1S01          Work with scenarios for CTCHKMSGQ          PROD
                  10/07/23 09:48:47

Position to . . . . . _____

Type options, press Enter.
  2=Change  3=Copy  4=Delete  5=Display  10=Test with CTCHKMSGQ
  12=Work with messages

Opt Name      Activ  Type of definition  Description
___ ACCOUNT   *NO   *JOBLOG             Monitor messages in ACCOUT job
___ BRMS_ERR   *YES  *BRMS               Errors in BRMS
___ CLEANUP   *NO   QSYS/QSYSOPR       All messages with 'Cleanup'
___ CPC1125   *YES  QSYS/QSYSOPR       Job canceled
___ FILE_FULL *NO   QSYS/QSYSOPR       File full
___ NETSERVER *NO   QSYS/QSYSOPR       Re-Enable netserver profiles
___ QSYSOPR    *YES  QSYS/QSYSOPR       all
___ SALES_APP *YES  QSYS/QSYSOPR       Monitor sales application
___ SYSOPRINQ *YES  QSYS/QSYSOPR       QSYSOPR wichtige Meldungen
___ TEST_RPT  *NO   *BRMS               Test for report
___ USV       *NO   QUSRSYS/USV        USV §berwachung

Bottom

F3=Exit  F5=Refresh  F6=Create  F12=Cancel
```

Gestion des messages

```
CTMS2S01A          Work with definitions for CTCHKMSGQ          PROD
                                10/07/23 11:39:39

Scenario . . . . . SALES_APP
Position to . . . . . _____

Type options, press Enter.
  2=Change  3=Copy  4=Delete  5=Display  12=Work with automatic actions

                                Nb Auto
Opt Order Type      Msg ID   Act  Description
___  ___  ___  _____  ___  _____
    1 Omit      CPF1234   0  Message i don't want
    2 Omit      CPI2417   0
    3 Omit      RNQ1217   0
   10 Critical   CPA5305   3  Record not added.
   20 Critical   CPA0701   0  Job in error
   21 Warning    CPI2417   0  MSGQ wrapped
   22 Critical   CPF7020   0  Journal receiver detached.
   30 Warning    SAL*      0  Messages specific to SALES application
   40 Critical   *INQ      0  Every INQ message
   99 Critical   *ANY      0  Every message with severity 40 or more

                                Bottom
F3=Exit  F5=Refresh  F6=Create  F8=Resequense  F10=Msg ID view  F11=Details
F12=Cancel
```

Gestion des messages

```
CTMS2S02                Display definition for CTCHKMSGQ                PROD
                                                                    10/07/23 11:41:52

Type options, press Enter.

Scenario . . . . . SALES_APP  ACCOUNT, BRMS_ERR, ...

Control order number . . . . . 22
Description . . . . . Journal receiver detached.
Type of alert/ Omit . . . . . C Critical      Critical, Warning, Omit

Message ID . . . . . CPF7020      Msg ID, *NONE, *ANY, *INQ,
                               *REPLY, generic?*

Text to look for in msg . . . . .
Msg level text to look for *BOTH      *BOTH, *MSG, *SECLVL
Job name . . . . . *ANY          Name, *ANY, generic?*
User profile name . . . . . *ANY      Name, *ANY, generic?*

Message severity . . . . . Mini : 0      Maxi : 99      00 - 99
Valid time period . . . . . Begin : 00.00.00  End : 24.00.00

F3=Exit  F5=Refresh  F12=Cancel
```

**Inclure les partitions IBM i
dans le processus de surveillance de votre entreprise.**

**Rendre Nagios, PRTG, Zabbix, ...
compatible avec la surveillance IBM i**

De façon compréhensible pour les administrateurs IBM i.

**Pas de développement
Surveiller le système ET les applications
S'installe en 1 heure et s'utilise en quelques heures.**

Ce que pensent nos clients

Nous sommes très satisfaits de la compétence et de la réactivité de M81.

*Nous avons choisi leur produit **Control for i** pour optimiser et automatiser les contrôles de nos partitions IBM i.*

Les produits sont faciles à mettre à jour et M81 est toujours à l'écoute et ouvert à toutes les évolutions afin de bénéficier à l'ensemble de la communauté.

Arcelor Mittal,
France

*Nous utilisons avec succès **Control for i** sur plus de 20 LPAR de test et de production. Il est facile et rapide à installer, performant et fiable. Le support de M81 réagit rapidement et est très ouvert à toute suggestion visant à améliorer ses fonctionnalités.*

Marsh McLennan Companies,
Royaume-Uni et USA

Contacts

Pascal Ruckebusch

Technical

+33 6 89 05 76 55

pruckebusch@m81.eu

Amal Juvin

Sales & Partners Europe

+33 613 537 706

ajuvin@m81.eu

Karl H. Prisching

German Countries

+43 676 633 06 05

khprisching@m81.eu

Andreu Rul

Spanish Countries

+34 663 817 144

arul@consultha.com

Bruno Taverne

Sales & Partners Americas

+33 6 20 27 22 17

btaverne@m81.eu

Ainsi que de nombreux revendeurs certifiés

Site web : www.m81.fr

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