

Université **IBM i**

7 novembre 2023

IBM Innovation Studio Paris

S22 - Comment Instana & Turbonomic peuvent aider à la gestion de vos IBM i

16:00 / 17:00

Benoît Henry

IBM France

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 **infrasdufutur**

#ibmi

#uui2023

#infrastructuredufutur|IBM23



Infrastructures du futur



7 et 8 novembre 2023

Agenda

- 1. De l'APM à l'observabilité

INSTANA

- 2. Optimisation des ressources

turbonomic

APM, ARM, AIOps.... Cékidon ?

- **APM:** Application Performance Monitoring
 - Monitoring des temps de réponse et des performances des applications
- **ARM:** Application Resource Management
 - S'assurer que chaque application dispose des ressources dont elle a besoin, quand elle en a besoin, continuellement.
- **AIOps:** AI for IT operations. Engager l'AI pour :
 - éliminer le troubleshooting manuel
 - Optimiser les performances des applications et l'infrastructure
 - Réduire les coûts
 - Eviter les pannes
 -
- L'ARM s'appuie sur l'APM pour collecter les données de surveillance

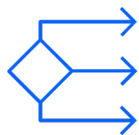


**IBM Cloud Pak for
Watson AIOps**



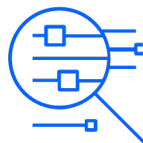
Management du cloud hybride par IBM

Automatisation de l'IT drivée par l'AI



Une prise de décision plus rapide

Full-stack, enterprise observability



Allocation plus intelligente des ressources

Dynamic resource management and cost optimization



Gérer et automatiser

Autonomous problem determination, remediation, avoidance

Observe

INSTANA

an IBM Company

Real-time understanding of environment

Optimize

turbonomic

an IBM Company

Maximize efficiency, compliance

Manage & Automate



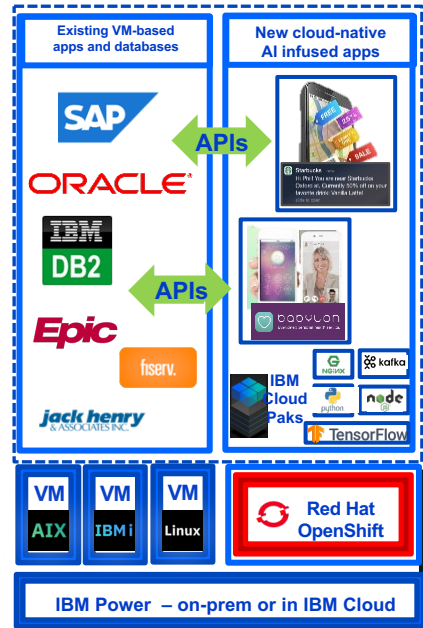
IBM Cloud Pak for Watson AIOps

Automate IT availability

AI-Powered Automation

IBM Power Infrastructure for App Modernization

Modernize apps incrementally on IBM Power for advanced monitoring and management



IBM Power Cloud Infrastructure Stack

Pay-as-you-go on-premises or off-premises

- DevOps
- Co-locate Apps & Data
- Low latency Data gravity
- Superior economics

IBM Power Hybrid Cloud Management



Observability & App. Monitoring

Instana supports VM monitoring across IBM AIX, IBM i and Linux on IBM Power, as well as for Kubernetes / OpenShift clusters in hybrid cloud architectures



Resource Optimization



IBM CP for Watson AIOps – Infrastructure Automation



Red Hat Advanced Cluster Management for Kubernetes

Open hybrid multicloud platform

- Red Hat OpenShift
- Red Hat Enterprise Linux
- Red Hat Ansible Automation Platform

Open Source Software & Developer Community

- open source initiative
- Kubernetes
- Travis CI
- GitLab
- GitHub
- PostgreSQL
- mongoDB
- aqua
- ONNX

Private cloud

- IBM Power servers (on-premises datacenters)
- Pay as you go with Power Private Cloud
- AIX, IBM i, Linux, Red Hat

Public cloud

- IBM Power Virtual Server
- In 14 IBM Cloud datacenters globally



IBM i

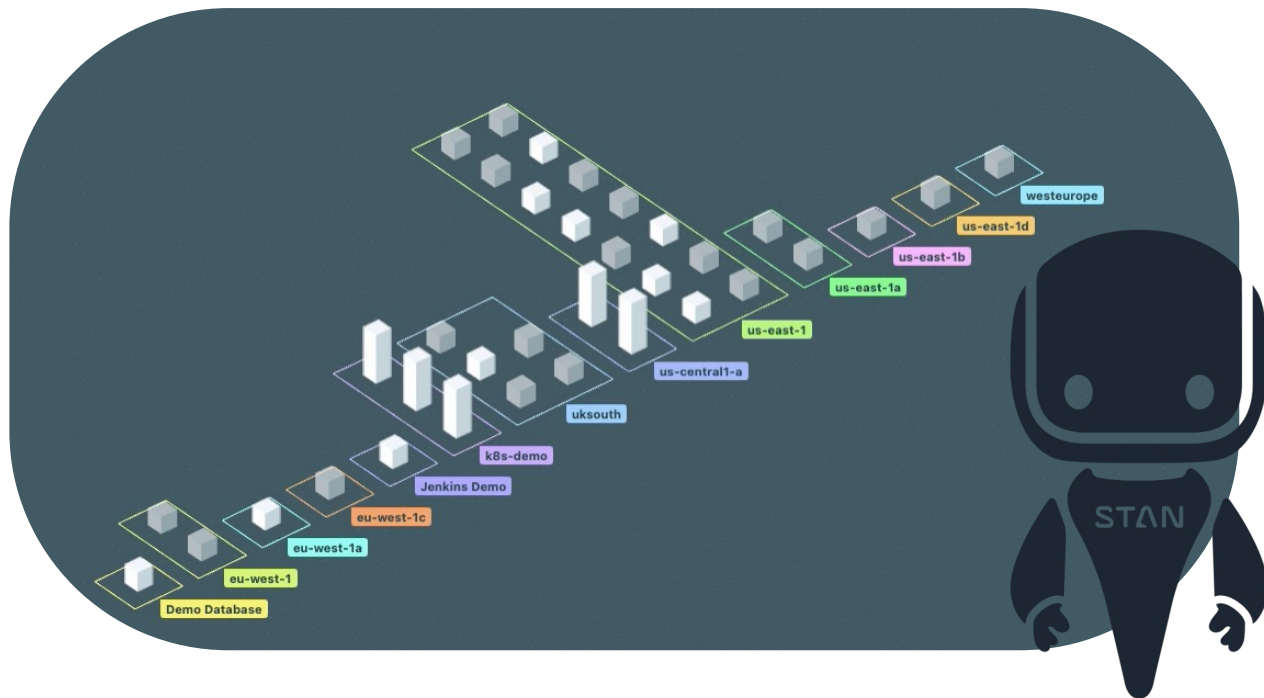
1. Observabilité



INSTANA

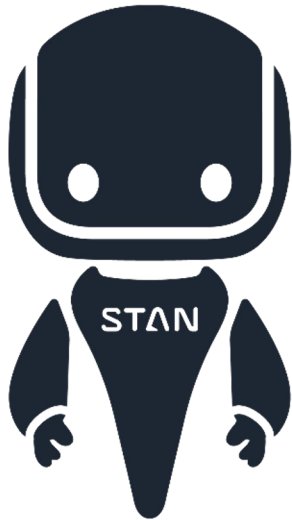
an IBM Company

Full-stack Observability with Instana



- Observabilité multiplateforme de haut en bas
- Prise en charge des machines virtuelles et des conteneurs
- Découverte automatique
- Surveillance proactive de la santé
- Tableaux de bord personnalisés prêts à l'emploi

Collecter des données précises dans le contexte

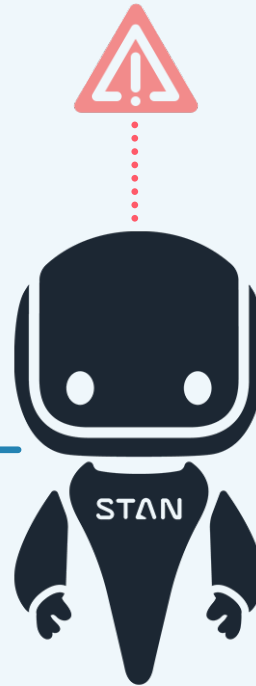
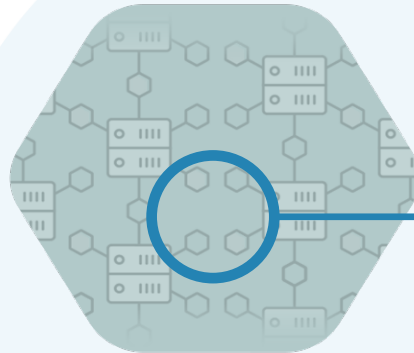


- Graphique dynamique
- Détection automatique des anomalies
- Perspectives d'application
- Open Source & Logging Integrations



Take intelligent action

- Analyse des causes profondes avec alertes et rapports d'incidents corrélés
- Dépannage guidé
- Retour d'information immédiat sur les pipelines et Canaries
- Analyse 'sans frontières'



command DATABASE

SOURCE catalogue-demo

Details & Stack Trace

Type MongoDB query
Category database
Service mongodb:27017
Namespace catalogue.\$cmd
Query

```
// Command: command  
{  
  "find": "products"  
}
```

Stack Trace

```
executeWrappedCommandProtocol in com.mongodb.operation.CommandOperation  
call in com.mongodb.operation.FindOperation$1:701  
withConnectionSource in com.mongodb.operation.OperationHelper:462  
withConnection in com.mongodb.operation.OperationHelper:406  
execute in com.mongodb.operation.FindOperation:995  
executeFindMultiInternal in org.springframework.data.mongodb.core.MongoTemplate:320  
doFind in org.springframework.data.mongodb.core.MongoTemplate:2380  
find in org.springframework.data.mongodb.repository.support.SimpleMongoReposit  
Invoke in org.springframework.data.repository.core.support.RepositoryComposition:1  
invoke in org.springframework.data.repository.core.support.RepositoryFactorySupport  
doInvoke in org.springframework.data.repository.core.support.RepositoryFactorySupport  
lambda$invoke$3 in org.springframework.data.repository.core.support.RepositoryFac  
Invoke in org.springframework.data.repository.core.support.RepositoryFactorySupport  
invoke in org.springframework.data.repository.core.support.SurroundingTransactionC
```

SERVICE IMPACT

08-33:00 Sudden drop in the number of requests DURATION 2m 26s
On: catalogue-demo

SERVICE IMPACT

08-34:00 Erroneous call rate is too high DURATION 1m 26s
On: catalogue-demo

Relever les défis de l'observabilité



Le déploiement et la maintenance des APM actuels prennent beaucoup de temps



Données précises en temps réel : Traçage distribué à 100 %, mesures à une seconde, pipeline de déploiement logiciel immédiat et retour d'information CI/CD



Manque de visibilité sur les nouveaux environnements



Découverte continue et en temps réel des microservices et de l'infrastructure - architecture à agent unique -250+ capteurs spécifiques au domaine



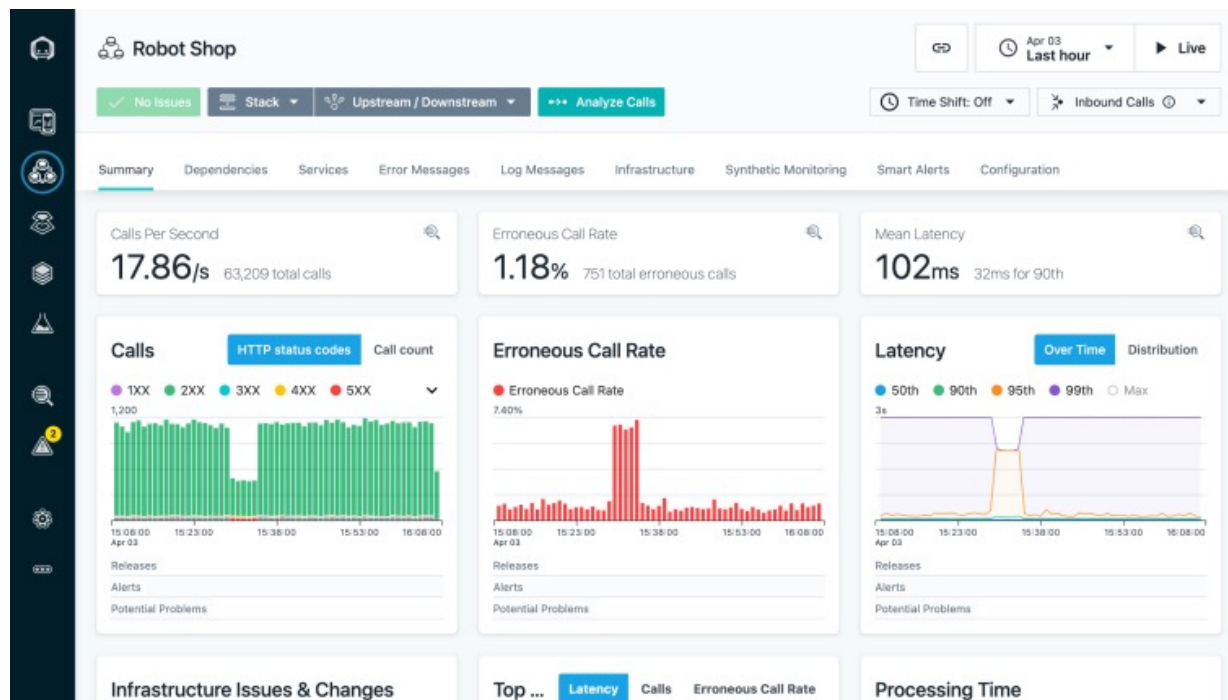
Pannes/ralentissements imprévus avec un dépannage difficile, long et coûteux



Cartographie des dépendances des applications - Cartographie automatisée des dépendances sur l'ensemble de la pile - Perspectives d'application flexibles

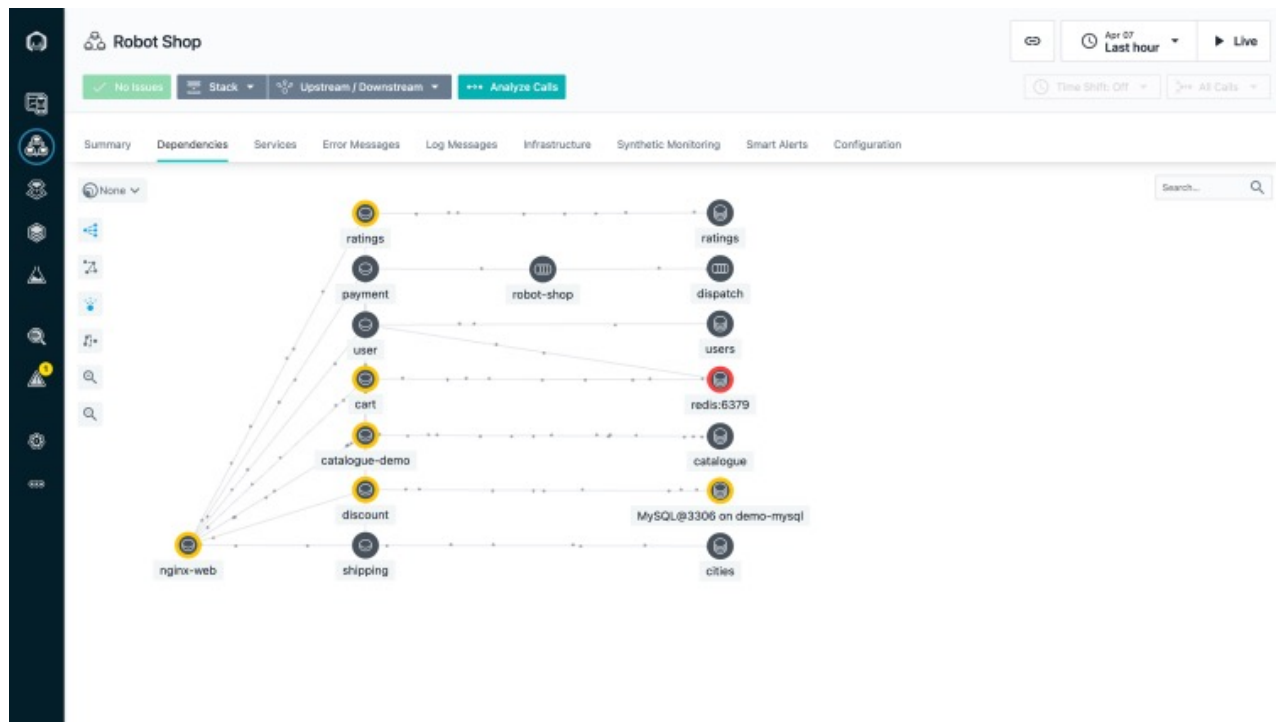
Observabilité des applications : Dashboard

Vue détaillée des métriques de performance de l'application : nombre de calls, taux d'erreurs, latence...

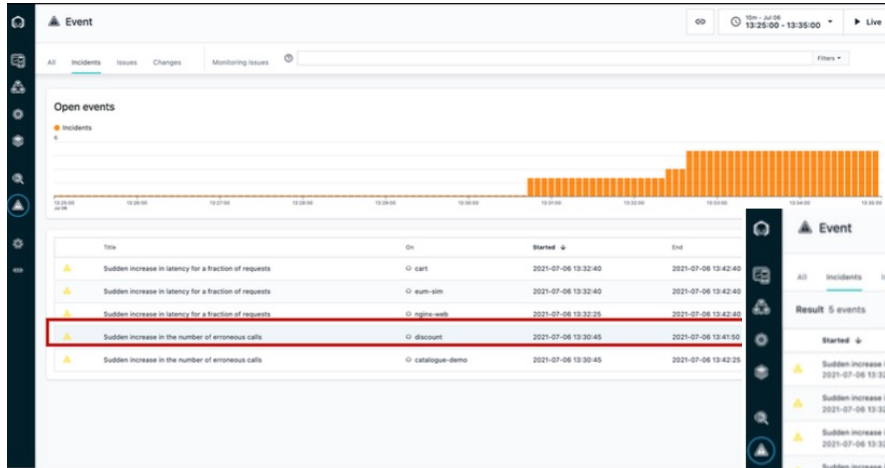


Observabilité des applications : cartographie

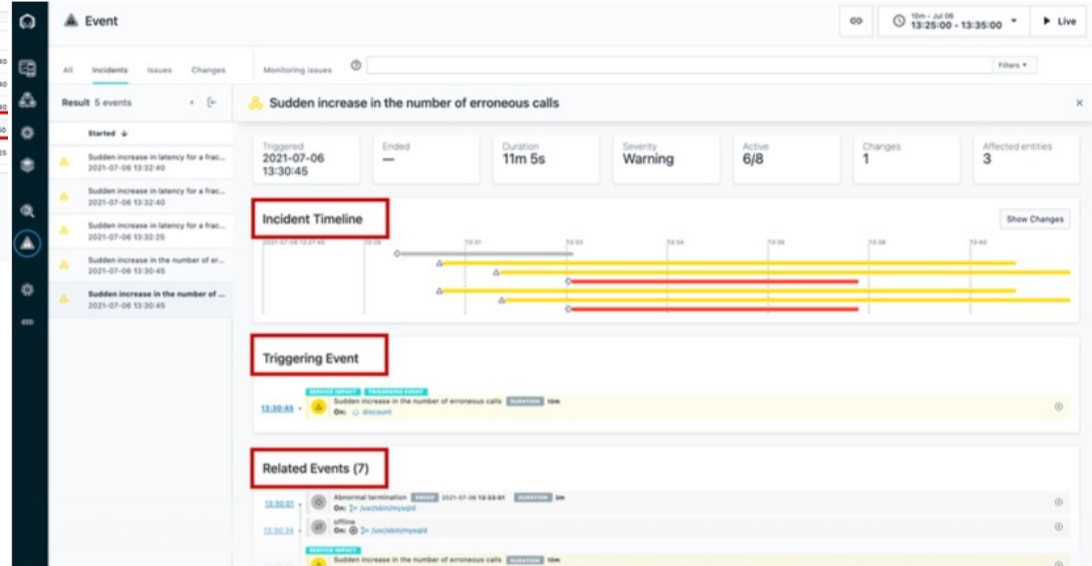
Vue graphique des relations entre les différents services de l'application



Exemple Gestion d'incidents



- Vue de la timeline
- Vue du Déclencheur
- Vue des événements en relation



Exemple Gestion d'incidents (suite)

The screenshot displays the IBM i incident management interface. The top section shows an event titled "Sudden increase in the number of erroneous calls" with a description: "This can be a sign of a problem on one side of the connection. Absolute change: 100%. Confidence: 98.99%." A red box highlights the "Analyze Calls" button. Below this, a bar chart shows the number of erroneous calls over time, with a red box highlighting the peak. The bottom section shows a table of call details with columns for Project Name, Service, Date, Calls, Latency, and Error Rate. A red box highlights the "CONNECT" service entry. On the right, the "Analytics > Calls" view shows a list of calls with a red box highlighting the "CONNECT" service entry. Below this, a "Timeline" view shows a sequence of calls with a red box highlighting the "CONNECT" service entry. The bottom right section shows a "Service Endpoint List" and a "Details & Stack Trace" view for the "CONNECT" service, with a red box highlighting the "CONNECT" service entry.

- Analyse détaillée de l'incident
- Vue des différentes transactions
- Vue détaillée de la trace, des commandes réalisées

Vue Infrastructure

Visibilité
graphique de
l'ensemble des
infrastructures
(serveurs, VMs,...)

Regroupement
par catégories
personnalisables

Filtres
personnalisables
avec définition de
tags



Support IBM i

- Plateformes IBM i supportées : 7.2, 7.3, 7.4, et 7.5
- La surveillance de Db2 for IBM i est automatiquement lancée une fois que la configuration IBM i est en place et que Collections Services est démarré.
- Agent distant sur Linux pour monitoring IBM i (agent natif dans la roadmap)
- 2 modes de collecte :
 - Remote JDBC connection to IBM i SQL services using SQL queries “Always on”
 - Java toolkit for IBM i (jt400) to run remote commands on IBM i to retrieve data from Performance Collection Services tables “Configurable”
- Sensor HMC pour la remontée des données d’utilisation et de performance

<https://www.ibm.com/docs/en/instana-observability/223?topic=technologies-monitoring-i-instances>

<https://www.ibm.com/docs/en/instana-observability/223?topic=technologies-monitoring-db2-i>

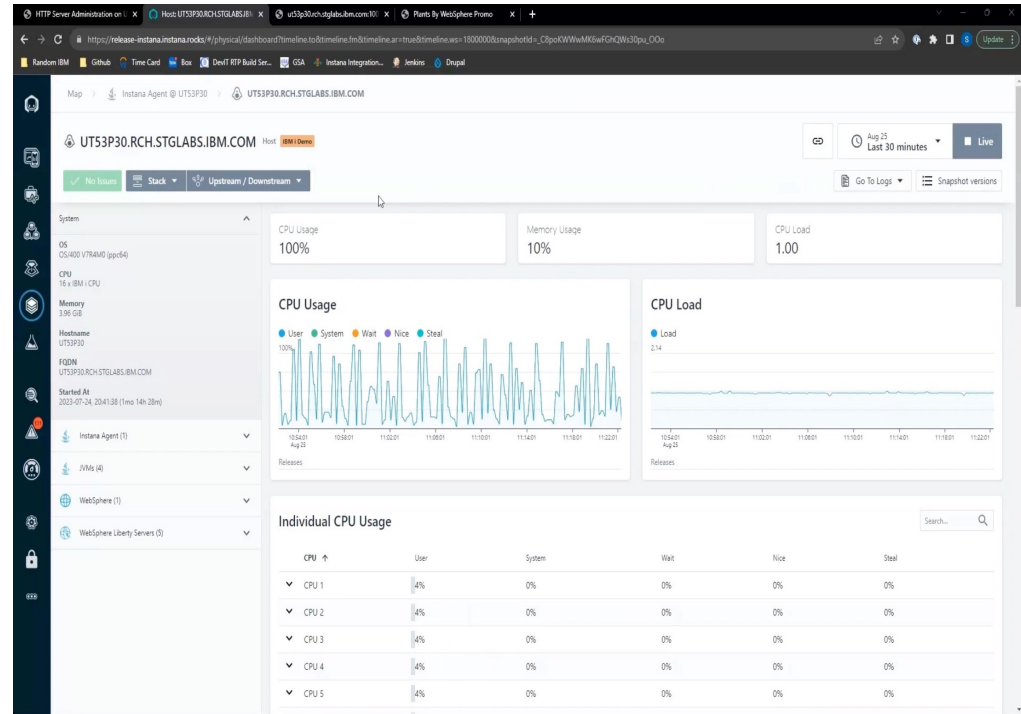
<https://www.ibm.com/docs/en/instana-observability/223?topic=technologies-monitoring-power-hmc>

De nombreuses nouvelles fonctions sont prévues dans la roadmap :

- Agent natif
- Accélérer les options de données IBM i avec Prometheus (solution Open Source)
- Vue complète des données et des interactions MQ
- Vue des applications Java
- WebSphere Application Server
- Liberty Servers
- Integrated Web Services Servers (Rest API Engine)
- Correction automatisée des problèmes avec Ansible (AiOps)

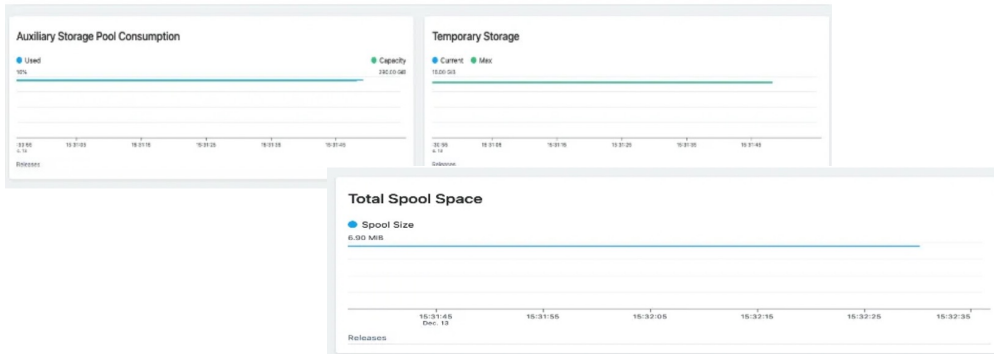
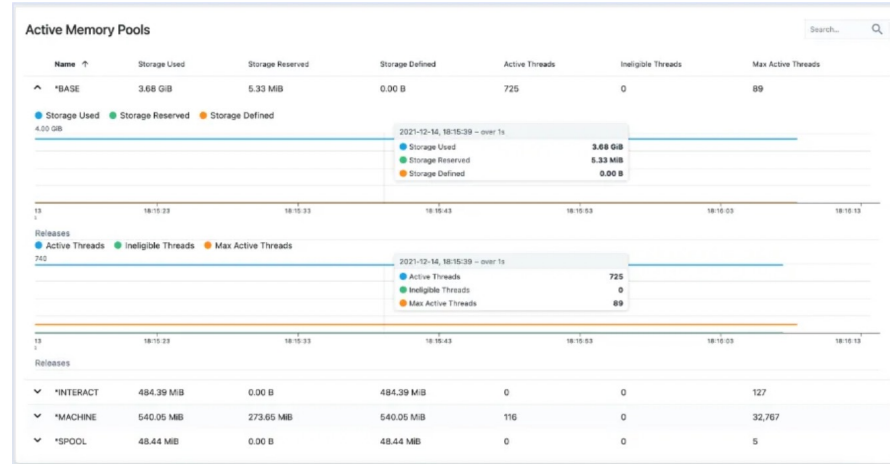
Monitoring via HMC

- Vue des HMCs, traitement des critical events HMC, et critical hardware des serveurs
- Vue des serveurs : UC, RAM, SPP, Firmware...
- Vue des VIOs : utilisation UC, RAM, réseau, SEA,...
- Vue des LPARs : Utilisation UC, RAM, réseau, FC,...



Monitoring IBM i : Dashboard - Storage

Vue de l'utilisation
RAM et des pools
mémoire...



De l'occupation du
stockage (disques,
RAM, Spools) ..

Monitoring IBM i : Dashboard - Queues



Vue des jobq ...

Job Queue (as of 2021-12-13, 15:18:09)

Job Queue Name	Job Queue Library	Subsystem Name	Subsystem Library Name	Number Of Jobs	Active Jobs	Maximum Active Jobs	Job Queue Status
QSYSNOMAXQSYS	QSYS	QSYSWRK	QSYS	0	64	-1	RELEASED
QSYSNOMAXQSYS	QSYS	QSYSWRK	QSYS	0	2	-1	RELEASED

Description: USER SUBSYSTEM JOB QUEUE

Legend: Held Jobs (blue), Released Jobs (green), Scheduled Jobs (orange)

Time	Held Jobs	Released Jobs	Scheduled Jobs
2021-12-13, 15:18:23 - user 15	0	0	0

Time	Released
15:17:47	0
15:18:07	0
15:18:17	0
15:18:27	0
15:18:37	0

Job Queue Name	Job Queue Library	Subsystem Name	Subsystem Library Name	Number Of Jobs	Active Jobs	Maximum Active Jobs	Job Queue Status
QZBHHTFYQHHTPSVR	QHHTPSVR	QHHTPSVR	QHHTPSVR	0	1	-1	RELEASED
QCTLQSYS	QSYS	QCTL	QSYS	0	1	-1	RELEASED
QTXSRCHQGPL	QGPL	QBATCH	QSYS	0	0	-1	RELEASED
QGPLQGPL	QGPL	QGPL	QSYS	0	0	-1	RELEASED
QSMRMTQGPL	QGPL	QINTER	QSYS	0	0	-1	RELEASED
QSMRMTQGPL	QGPL	QBATCH	QSYS	0	0	-1	RELEASED
QINTERQGPL	QGPL	QINTER	QSYS	0	0	-1	RELEASED
QBATCHQGPL	QGPL	QBATCH	QSYS	0	0	1	RELEASED

Des msgq, outq ...

Message Queue (as of 2021-12-14, 19:30:44)

ID	Library Name	Queue Name	Key	Type	Severity	Timestamp
CPF1241	QUSRSYS	QPQMR	00002520	COMPLETION	0	2021-12-13 22:00:23.326606
CPF1E1D	QSYS	QSYSOPR	00001030	COMPLETION	0	2021-12-13 22:00:23.322728
CPF1E87	QSYS	QSYSOPR	00000D30	INFORMATIONAL	0	2021-12-13 22:00:23.322587

Text: Cleanup of system journals and system logs successfully completed.

Second Level Text: &N Recovery ... If you want to change number of days to keep system journals and system logs or no longer want this particular part of cleanup to run, then use the option to Change cleanup options on the Cleanup Tasks (CLEANUP) menu. If you no longer want cleanup to run, then use the End Cleanup option on the Cleanup Tasks (CLEANUP) menu.

CPF1E86	QSYS	QSYSOPR	00000C80	INFORMATIONAL	0	2021-12-13 22:00:21.675902
CPF1241	QUSRSYS	QPQMR	00002430	COMPLETION	0	2021-12-13 22:00:19.320042
CPF1E94	QSYS	QSYSOPR	00000C30	INFORMATIONAL	0	2021-12-13 22:00:19.312529
CPF1241	QUSRSYS	QPQMR	00002340	COMPLETION	0	2021-12-13 22:00:19.071030
CPF1241	QUSRSYS	QPQMR	00000360	COMPLETION	0	2021-12-13 22:00:19.024296
CPF1241	QUSRSYS	QPQMR	00000270	COMPLETION	0	2021-12-13 22:00:19.004759
CPF1241	QUSRSYS	QPQMR	00000180	COMPLETION	0	2021-12-13 22:00:19.001531

Events & Alertes

The screenshot displays the IBM i monitoring interface for the system `ut31p37.rch.stglabs.ibm.com`. The dashboard includes several key components:

- System Info (Left Panel):**
 - Host Name: `ut31p37.rch.stglabs.ibm.com`
 - OS Version: 7.3
 - Total CPU: 4
 - Total Memory: 6192
 - Configured CPU: 2
 - Configured Memory: 4096
 - Partition ID: 37
 - Number of Partitions: 77
 - Restricted State: NO
- CPU Utilization (Center Panel):**
 - Current CPU Utilization: 0%
 - Rate: 140%
 - Graph showing CPU usage over time (22:04:51 to 22:06:51).
- Event Alert (Modal Window):**
 - 1 Open issue**
 - Warning:** CPC1E1D detected in QSYS/QSYSOPR
 - Library/Queue Name:** QSYS/QSYSOPR
 - Message ID:** CPC1E1D
 - Message Key:** 00001800
 - Type:** COMPLETION
 - Severity:** 0
 - Text:** Cleanup has completed.
 - Second Level Text:** null
 - Timestamp:** 2021-12-20 22:00:27.146808
 - Started:** 2021-12-21, 22:03:00
 - Action:** View 1 issue
- Event Details (Right Panel):**
 - Event:** CPC1E1D detected in QSYS/QSYSOPR
 - Started:** 2021-12-21 22:03:00
 - Ended:** --
 - Duration:** 11m 32s
 - Description:**
 - On: `ut31p37.rch.stglabs.ibm.com`
 - Library/Queue Name: QSYS/QSYSOPR
 - Message ID: CPC1E1D
 - Message Key: 00001800
 - Type: COMPLETION
 - Severity: 0
 - Text: Cleanup has completed.
 - Second Level Text: null
 - Timestamp: 2021-12-20 22:00:27.146808

Définition des Events

Personnalisation des Events, définition de règles de surveillance, statut de criticité ...

The screenshot shows the 'Settings' page for 'Team Settings'. The left sidebar lists various configuration categories: ACCESS CONTROL (Users, Pending Invitations, Groups, API Tokens), EVENTS & ALERTS (Events, Alerts, Alert Channels, Maintenance Windows, Custom Payload), LOG MANAGEMENT (Coralogix, ELK, Humio, Mezmo, Splunk), and AUDIT (Action Log, Access Log). The 'Events & Alerts' section is active, showing 'Events' selected.

The main content area is titled 'Create A New Event' and is divided into several sections:

- 1. Event Details:** Includes a 'Name' field (set to 'IBM i'), a 'Description' field, and 'Issue Severity' (set to 'Critical'). There are also checkboxes for 'Incident' (checked) and 'Grace Period' (set to 'Select...').
- 2. Condition:** Includes 'Source' (set to 'Built-in metrics'), 'Entity type' (set to 'IBM i'), and 'Time Window' (set to '1 s').
- Configuration Table:** A table with columns for Metric, Matching Operator, Message Queue, Aggregation, Operator, and Count. A dropdown menu is open over the 'Metric' column, showing options like 'Message Queue > Severity', 'Auxiliary Storage Pool Consu...', 'CPU > Rate (avgCPURate)', and 'CPU Utilization > Avg (avgCP...'. The 'Matching Operator' is set to 'is'.
- Issue Preview:** A dark box showing a warning icon, 'Started: 2023-11-02, 22-01:34', and 'IBM i'.

At the bottom right, there are 'Cancel' and 'Create' buttons.

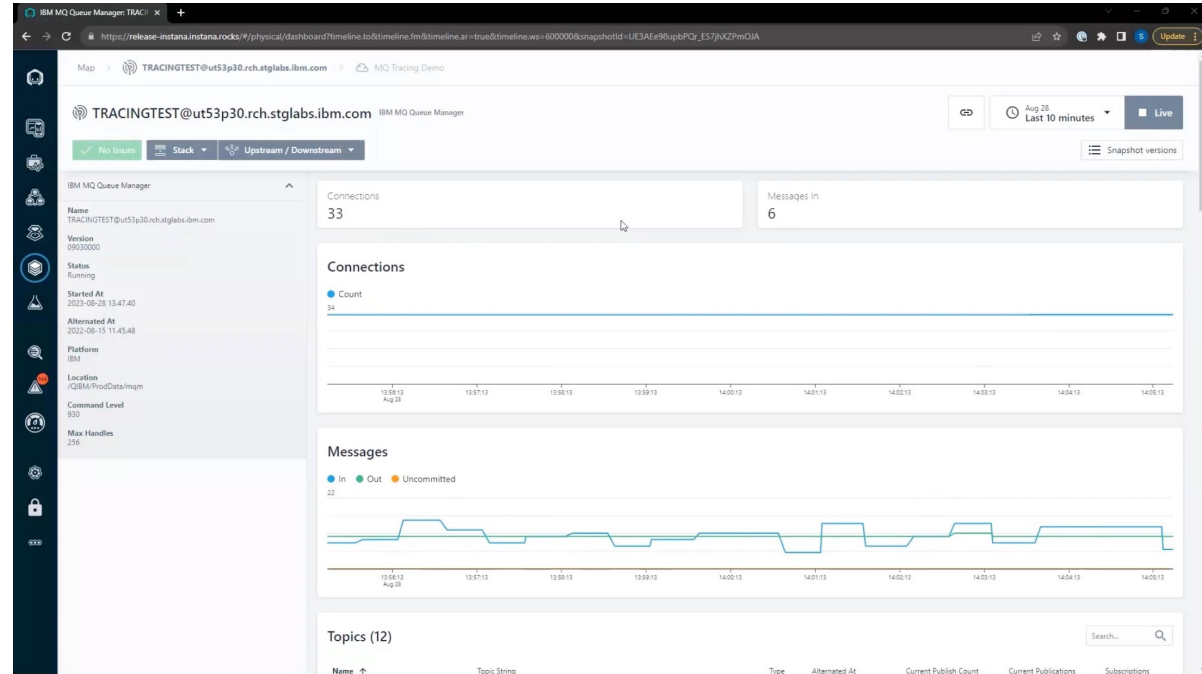
Définition des Alertes

Personnalisation des alertes en lien avec les Events, différents choix de communication (email,..)

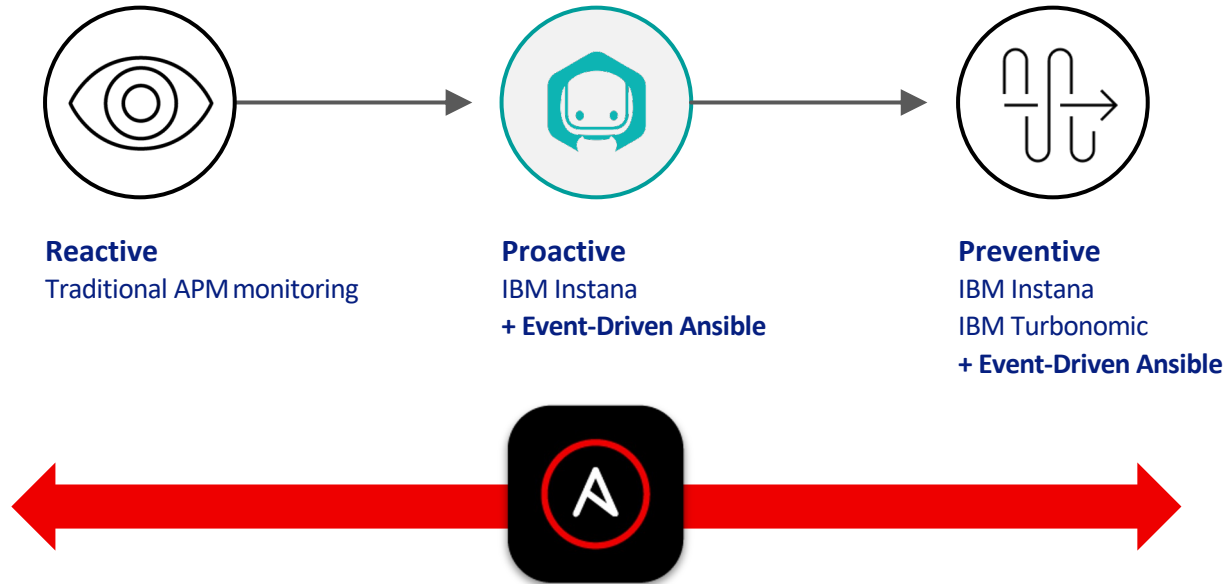
The screenshot shows the 'Settings' page in the IBM i interface, specifically the 'Alerts' configuration section. The left sidebar contains a navigation menu with categories like 'ACCESS CONTROL', 'EVENTS & ALERTS', and 'LOG MANAGEMENT'. The 'Alerts' option is highlighted. The main content area is titled 'Create New Alert' and is divided into four sections: 1. Name, 2. Events, 3. Scope, and 4. Alerting. A yellow warning banner is present in the 'Events' section, stating that 'Custom Events on entity types Application, Service and Endpoint are deprecated'. The 'Events' and 'Alert Channels' sections each contain a table with columns for Name, Description, and Entity type, both of which are currently empty.

Monitoring MQ

- Contrôler le flux des messages
- Comprendre où se situent les problèmes



Automatisation intelligente : intégration Ansible





IBM i

2. Optimisation des ressources



turbonomic
an IBM Company

La confiance des clients

IBM Power



- Fournir en toute sécurité des services de virtualisation de l'infrastructure sur les systèmes IBM Power pour les applications commerciales les plus critiques..

IBM Turbonomic

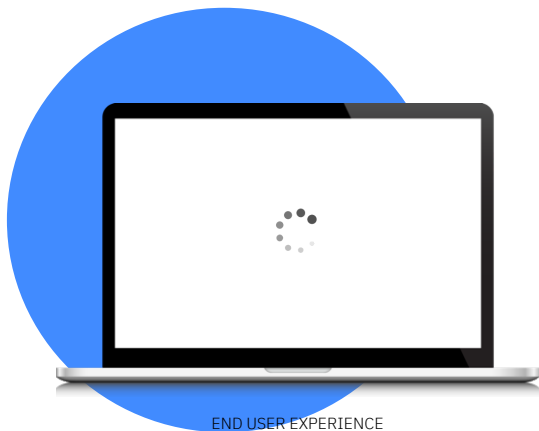


- Automatiser les décisions les plus sûres et les plus fiables en matière de ressources applicatives au sein de l'infrastructure d'applications hybrides, afin de garantir les performances, de maintenir la conformité et d'assurer une efficacité responsable à grande échelle.

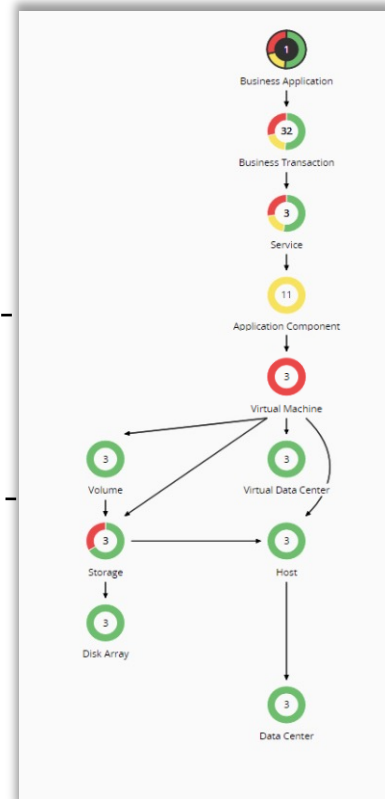
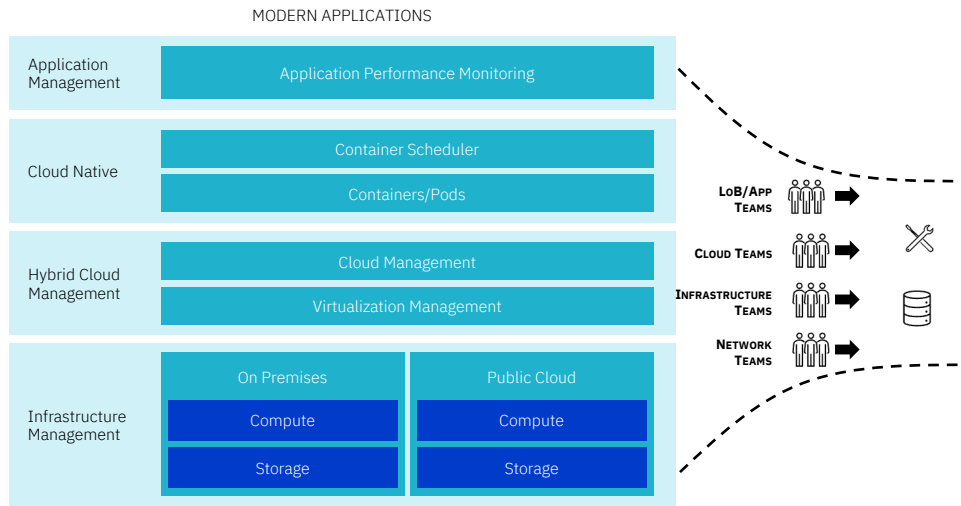


Turbonomic Application Resource Management Platform

Full Stack Visibility from Apps to Infrastructure



- Lost revenue
- Lack of innovation
- Competitive disadvantage
- Customer/brand loyalty



Turbonomic ARM

SETUP

Full Stack Integrations
API driven

VISIBILITY

Application Infrastructure
Resource Relationship
Mapping

ANALYTICS

Dynamic Resourcing
Decisions

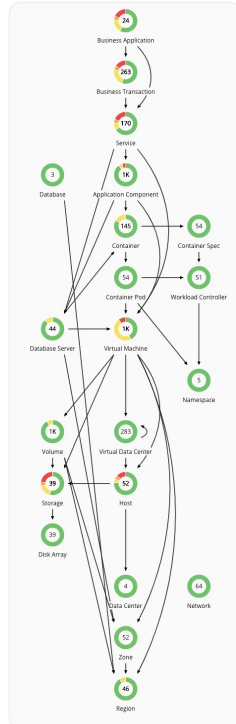
ACTIONS

Executable Trustworthy
Actions

TEAMS

Improved Operational
Approach

Applications
Provisioning & Orchestration
Containers
Databases
Virtualizations
Public Cloud
Hyperconverged
Compute
Storage
Network



Intelligent Sizing



Continuous



Placement



Dynamic Scaling



Buy/Delete/Start/Stop



pScenario Planning



Manually (with a



click)



Scheduled



Approval Workflow



Real-Time

Automation

Single Source of Truth



LOB/AppDev & DevOps

- Continuously assure application performance
- Augment teams with AIOps to increase productivity
- Drive responsible agility, apps get exactly what they need to perform



SRE & IT Ops/Infra

Action Center (2,047)

DELETE

Storage Devices (1974)

RECONFIGURE

Virtual Machines (52)

RESIZE

Virtual Machines (15)

SUSPEND

Hosts (4)

MOVE

Virtual Machines (2)

Resize Actions (3)

Virtual Machine Name	Risk	Resize Direction	Current Value	New Value	Resize Attribute	Action Category	Action
cp-parent-6c2b74b-8b53-489b-819d-8b79c2c3b5a5	MEM	Upsize	2 GiB	3 GiB	Capacity	PERFORMANCE	DETAILS
cp-parent-cfac3b0b-2eaf-445c-81ab-8b79c2c3b5a5	MEM	Upsize	2 GiB	3 GiB	Capacity	PERFORMANCE	DETAILS
81123-RDMVMS3	MEM	Downsize	2 GiB	1 GiB	Capacity	EFFECTIVITY	DETAILS
81123-RDMVMS1	MEM	Downsize	2 GiB	1 GiB	Capacity	EFFECTIVITY	DETAILS
S04-P01-P04B-01	vCPU	Downsize	2 vCPU	1 vCPU	Capacity	EFFECTIVITY	DETAILS
S04-P01-P04B-01	MEM	Downsize	8 GiB	7 GiB	Capacity	EFFECTIVITY	DETAILS
S04-P01-P04-01	MEM	Downsize	4 GiB	3 GiB	Capacity	EFFECTIVITY	DETAILS

Quelques questions fondamentales

1. **Comment savoir si les LPAR sont dimensionnés pour répondre aux exigences des applications modernes et dynamiques ?**
 2. **Êtes-vous prêt à affronter les workloads conteneurisés modernes ?**
 3. **Comment atteindre les objectifs d'efficacité financière et de réduction des émissions de carbone sans compromettre les performances ?**
 4. **Disposez-vous d'une plateforme d'optimisation unique qui fonctionne sur l'ensemble de l'infrastructure hybride ? IBM Power + VMware + Cloud public + Conteneurs**
1. Visualiser l'ensemble du parc IBM Power
 2. Réduire le temps nécessaire pour résoudre les problèmes de ressources informatiques
 3. Optimisation continue des LPAR en fonction de la demande moyenne et de la demande maximale
 4. Déclencher des workflows pour intégrer les actions de dimensionnement des LPARs dans la gestion des changements et les plateformes d'automatisation existantes.

Visibilité

Identifier rapidement les défis en matière de LPAR et de ressources système

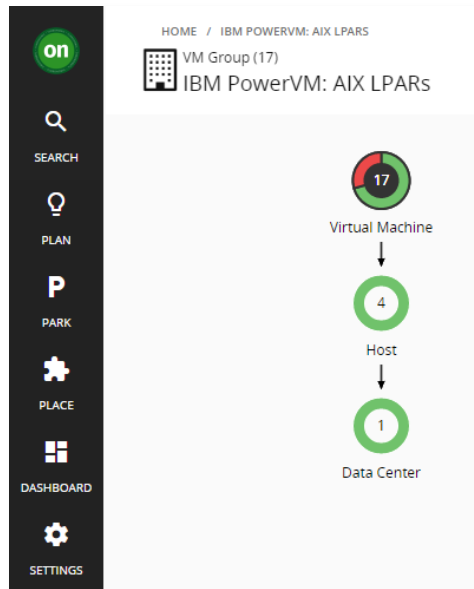
Vue d'ensemble unique de l'ensemble du parc Power

- Tous les LPAR sur tous les HMC
- Tous les Power Systems sur toutes les HMCs
- Sans agent via le HMC existant

Recherche dans l'ensemble du parc Power

Filtres et regroupements pour les vues d'ensemble

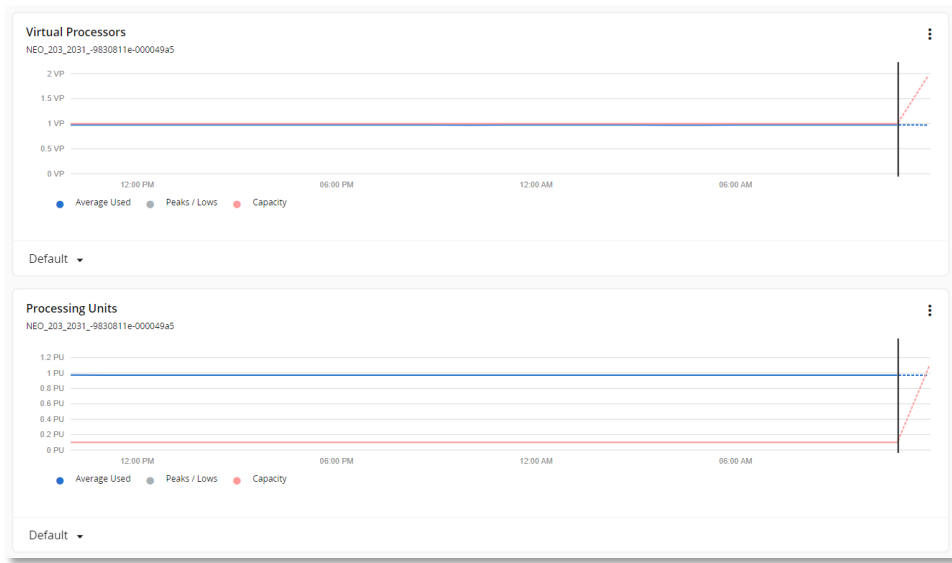
Disponible dans les 10 minutes de l'ajout d'une cible HMC



IBM PowerVM: All Hosts On-Prem	17 Hosts
IBM PowerVM: All LPARs On-Prem	587 Virtual Machines

Visibilité

- Des observations pour mener des actions :
 - Capacité et utilisation des processeurs virtuels
 - Unités de traitement CPU allouées et utilisation
 - Mémoire allouée



ID	74936124803684
Name	NEO_203_2031_9830811e-000049a5
OS and Software	Linux
Type	On-Prem
Target Name	IBM PowerVM_147
Target Category	Hypervisor
Target Type	PowerVM
Vendor ID [IBM PowerVM_147]	1830811E-9845-4472-826C-F51513328D11
State	Active
Severity	Critical
Number of Virtual CPU	1
Has Dedicated Processors	false
Processor Compatibility Mode	POWER8
Active Memory Expansion Enabled	false
RMC State	INACTIVE
Sharing Mode	Uncapped
Max PU for Non-disruptive Resize	0.1
Min PU for Non-disruptive Resize	0.05

- Informations importantes sur les LPAR et les systèmes disponibles directement depuis l'interface utilisateur de Turbonomic

Redimensionnement LPAR

Pending Actions
NEO_203_2031_-9830811e-000049a5

Resize up Virtual Processors for Virtual Machine NEO_203_2031_-9830811e-000049a5 from 1 VP to 2 VP
Virtual Processors Congestion in Virtual Machine NEO_203_2031_-9830811e-000049a5

Resize up Processing Units for Virtual Machine NEO_203_2031_-9830811e-000049a5 from 0.1 PU to 1.1 PU
Processing Units Congestion in Virtual Machine NEO_203_2031_-9830811e-000049a5

Action Details 7 of 180

Resize up Virtual Processors for Virtual Machine NEO_203_2031_-9830811e-000049a5 from 1 VP to 2 VP
Virtual Processors Congestion in Virtual Machine NEO_203_2031_-9830811e-000049a5 PERFORMANCE

VIRTUAL PROCESSORS PERCENTILE AND AVG. UTILIZATION

Virtual Processors Utilization is below 98% for 100% of the time over the 30 day observation period

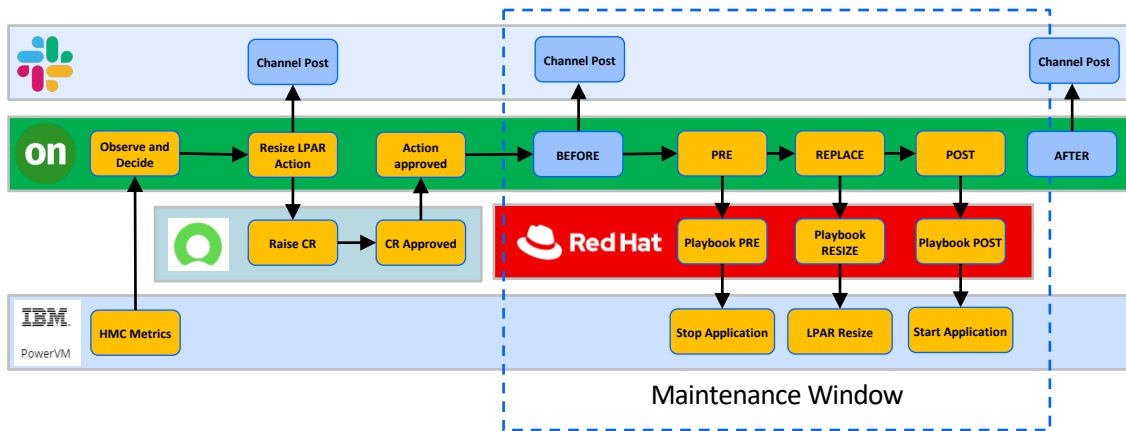
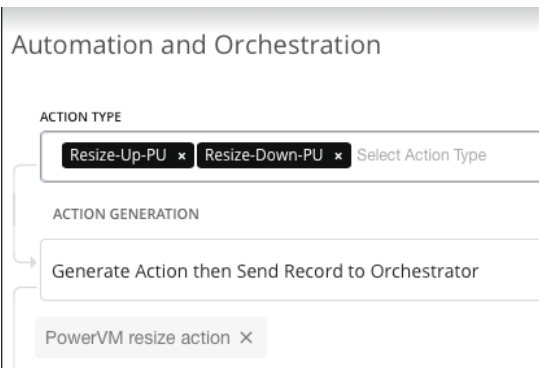
VIRTUAL MACHINE DETAILS

NAME NEO_203_2031_-9830811e-000049a5	
VIRTUAL PROCESSORS 97.3 % → 48.66 % ↓ 1 VP → 2 VP	PROCESSING UNITS 973 % → 88.48 % ↓ 0.1 PU → 1.1 PU

STATE
Action acceptance is blocked by policy or system. Acceptance mode is Recommend.

- **Décision fiable sur chaque LPAR toutes les 10 minutes**
- Redimensionnement de LPAR VP (percentile)
- Redimensionnement de LPAR EC (moyenne)
- Pour le moment recommandation seulement (pas de changement dynamique, prévu dans la roadmap)
- Automatisation via des flux de travail

Automatisation via flux de travail



- Intégration avec n'importe quelle API HTTP via des Webhooks
- Exemples d'automatisation des actions :
 - Post de messages Slack via Webhook
 - Introduire une demande de changement dans ServiceNOW
 - Action Approuver / Rejeter
 - Exécuter les recommandations LPAR via RedHat Ansible Playbook (non fourni) à partir de Turbonomic
 - Rapport d'audit sur les mesures prises

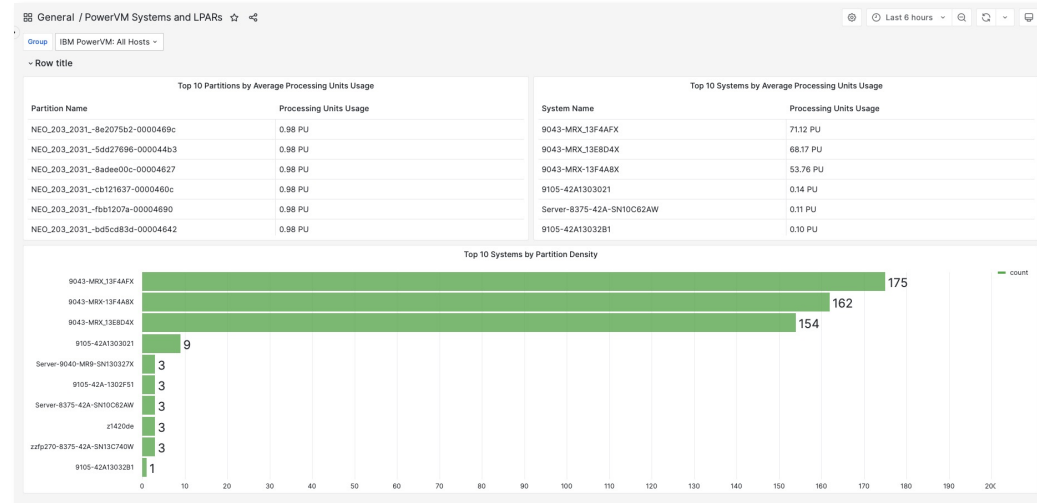
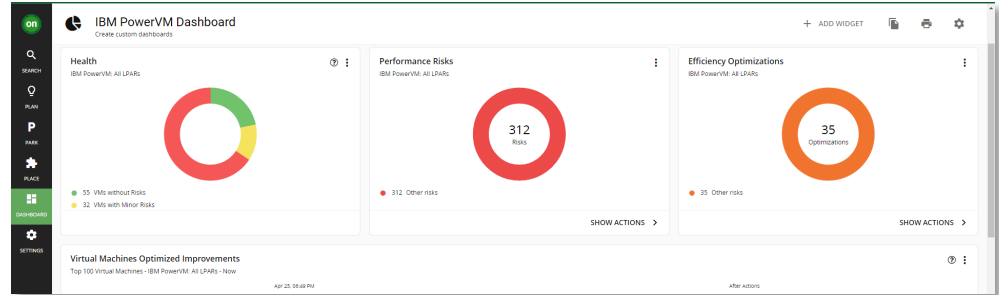
Dashboards

Composants par défaut:

- Santé et risques
- Améliorations avant/après
- Top LPARs & Systèmes
- Total virtual and entitled processors
- Utilisation dans le temps (VP, PU)

Exemples de rapport spécifiques IBM Power :

- Inventaire à travers toutes les HMCs
- Densités (LPAR:System; VP:EC)



Déploiement facile

- **Cloud hosted SaaS managed deployment** with Turbonomic Secure Connect Client on-premises.
- **VMWare Virtual Machine Deployable (OVA)** on-premises (ESX6.0 and above).
- **Microsoft Hyper-V Virtual Machine Deployable (VHD)** on-premises (Hyper-V 2012 and above).
- **RedHat OpenShift Container Platform deployment** on Linux x86 infrastructure.
- Containerized workloads and Kubernetes platforms can be managed via a probe (KubeTurbo) which deploys into Kubernetes clusters running on Linux based x86, amd, IBM Power and IBM zCx and LinuxOne architectures.
- **Easy IBM Power target addition. 10 minutes to visibility.**



Webinar et démos

Nos webinars techniques Power 2023 présentent :

Instana – solution IBM d’observabilité d’entreprise

04:00 - 06:00 30 nov. 2023 (UTC-04:00)

Turbonomic – Solution IBM d’optimisation de l’allocation des ressources applicatives

04:00 - 06:00 14 déc. 2023 (UTC-04:00)

Inscription : https://ibm.biz/webinar-technique_saison2



IBM Power + Instana + Turbonomic + RedHat en 3 minutes :

<https://www.ibm.com/power>



Demo: Probes and Automate with IBM Power (3:30)

