

Real-Life Examples:

Data Analysis and Reporting & Automatic Event Recovery



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TASK DEFINITION

Intro Data Acquisition Processing Data Reporting of Monitored Data Examples of Successful Practices



Intro

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- Monitoring and Performance Evaluation: Reporting is an essential tool for tracking and evaluating the overall performance of an organization. It provides an overview of the current state and helps identify areas that require attention.
 - SLA Compliance (Service Level Agreement): Measurement and Assessment of Service Quality: Reporting enables monitoring and measuring the level of SLA compliance. This is crucial for maintaining the quality of services provided and adhering to agreed-upon service levels.
- Financial Reporting: Monitoring Financial Health: Reporting provides critical information for monitoring the financial health of the organization. This includes costs, revenues, profitability, and other financial indicators.
 - **Capacity Planning: Resource Optimization:** Reporting on capacity and resource utilization allows the organization to plan and optimize its capacities. This is essential for the efficient allocation of resources and preventing overloads.
 - Identification and Remediation of Weak Points: Issue Identification and Correction: Reporting is crucial for identifying weak points and issues in various areas of the organization. This enables quick response and the implementation of measures for improvement.



Data Acquisition

More is Better: Obtaining data from multiple sources allows for more comprehensive analyses and provides an overall richer perspective. Integrating data from different sources can lead to more complex and accurate results.

API:

- Utilizing APIs for data acquisition has several advantages. Auditing, securing data transfer over HTTPS, and the ability to restrict access through intermediaries are key aspects in terms of security and access control.
- > API Benefits: Auditing Capability: APIs offer traceability for each query, facilitating tracking of who is accessing data and when.
- HTTPS Security: Data transmission via HTTPS ensures encrypted communication, safeguarding sensitive information from unauthorized access.

Access Restriction: APIs allow for setting restrictions on the server side, providing control over where and how far users can retrieve data.

- **Easily Limiting User Views:** Choosing an appropriate approach enables easy limitation of how far users can view into the data. This is crucial for maintaining security and protecting sensitive information. Identify areas that require attention.
- **Choosing the Right Technology:** Using SQL on a slave server provides efficient and fast access to the database. This method is particularly effective for transactional queries and data manipulation.





Processing Data by Type

Financial Data Processing:

- Analysing and processing financial data to gain insights into budgetary allocations, expenditures, and revenue streams.
- Identifying financial trends, cost-saving opportunities, and ensuring compliance with financial objectives.
- SLA Data Processing:
 - Evaluating data related to Service Level Agreements (SLAs) to assess the performance of services.
 - Processing SLA metrics to measure and improve service quality, adherence, and customer satisfaction.
- Capacity Utilization Analysis:
 - Processing data on resource usage and capacity to optimize operational efficiency.
- Identifying underutilized or overburdened resources and implementing strategies for optimal capacity utilization.





Processing Data by Type

Long-Term Planning and Forecasting:

- Conducting data analysis for long-term planning, including forecasting future trends and demands.
- > Utilizing historical data to make informed decisions and strategize for future organizational growth and stability.
- Goal Achievement Monitoring:
 - Processing and interpreting data to monitor progress toward organizational goals.
 - Implementing key performance indicators (KPIs) to track and measure success in meeting set objectives.
- General Data Reading and Processing:
 - Developing methods for efficient data reading and processing across various types.
 - Implementing data processing techniques that ensure accuracy, reliability, and relevance of information.





Financial Data Processing

Data transfer in to **reporting** DB

General Data Reading and Processing

SLA Data Processing

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IBB / Backup Report / 11-2023



Host	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
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Cancom

IT Monitoring Service

IBB / Capacity Report

Average Component Usage per Host

CPU Usage

Host	No. of CPU	Avg. CPU Usage	Min. CPU Usage	Max. CPU Usage
cc-mase.com	12.00	15.74 %	6.26 %	48.97 %
cc-mase.com	12.00	9.48 %	1.49 %	51.10 %
cc-mase.com	12.00	6.92 %	2.71 %	35.82 %
cc-mase.com	48.00	0.86 %	0.34 %	10.56 %
cc-mase.com	12.00	6.92 %	1.90 %	54.93 %
cc-mase.com	10.00	4.75 %	1.18 %	48.75 %
cc-mase.com	10.00	6.19 %	1.55 %	55.57 %
cc-mase.com	10.00	5.49 %	0.27 %	51.19 %
cc-mase.com	16.00	4.60 %	1.79 %	45.76 %
cc-mase.com	16.00	1.03 %	0.60 %	9.34 %

СЛИСОМ



Cancom



Overview Availability and Events per Host

Host	Event Count	Average availability
cc-mase.com	0	100.00

initMAX







offline Really?

Alza





Alza





SAZKA

STATUS SERVICES PROJECTS CALENDAR INCIDENTS OTHER DATA 9

SERVICE	STATUS		Wednesday	Thursday, June 1
WWW Portály	MAJOR OUTAGE	>	31	PayU Mainte May 31 - June 2 🖋
ESB ESB	FULLY OPERATIONAL	Ø	Casino Sazka Hry May 4 - Ma	Friday, June 2
🕹 NeoGames	FULLY OPERATIONAL		IGT fix release 3 May 29 - May 31	PayU Mainte May 31 - June 2 🖉
SAP SAP	FULLY OPERATIONAL		NG hotfixes May 30 - May 31 🖋	Saturday June 3
i Bl	FULLY OPERATIONAL		eCasino Amusenet Mainte 🖋	I NG hotfixes for June 2 - June 3
e CGI-BOT	FULLY OPERATIONAL			Saturday, June 4
File Systems	MINOR OUTAGE	I	PROD 🔲 UAT 🔲 QA 📒	Important Sazka Events 🛛 🖉 Maintena
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🔀 Email Služby	MAJOR OUTAGE		Outeres	
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🔶 Wi-Fi Bořislavka	FULLY OPERATIONAL	>	Sazka Hry 3	14:21
🕞 Tiskárny	FULLY OPERATIONAL	>	sazka.cz/hry. Na nápravě problem s	i nekterymi poskytovateli ner na portalu jeme, pro více informací sledujte
Zasedačky - Stav zařízení	MINOR OUTAGE	>	teamsovy kanal. Dobry den, evid	lujeme problem s nekterymi
Televize (Mediaboxy)	FULLY OPERATIONAL	>	A Sazka Hry 2 Yesterday	Sazka Hry 1 Friday



SAM ADMIN

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VMWare



VMWare





VMWare

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Monitoring ~	Top hosts							
유 Services ~	Host	Power State	V-CPUs	CPU	Memory	snapshot count	Snapshot Size	Consolidation Needed
:= Inventory	linsrv01	poweredOn (1)	1	1.22 %	2.99 %	0	0.00 B	false (0)
	web01	poweredOn (1)	2	0.55 %	2.99 %	0	0.00 B	false (0)
📄 Reports 🛛 🗸	zabbixHA01	poweredOn (1)	2	0.52 %	0.99 %	2	3.30 GB	false (0)
🖂 Alerts 🗸 🗸	Top hosts							
ଥ≏ Users ∽	Host	Power State	V-CPUs	CPU	Memory	snapshot count	Snapshot Size	Consolidation needed
 Administration ~ 	winfs01	poweredOn (1)	2	1.47 %	10.99 %	0	0.00 B	false (0)
	linsrv02	poweredOn (1)	1	1.45 %	0.99 %	0	0.00 B	false (0)
	windc01	poweredOn (1)	2	1.05 %	7.99 %	0	0.00 B	false (0)
	zabbixDB01	poweredOn (1)	2	0.80 %	1.99 %	1	3.40 GB	false (0)
	web02	poweredOn (1)	2	0.50 %	0.99 %	0	0.00 B	false (0)
	Top hosts							
	Host	Power State	V-CPUs	CPU	Memory	snapshot count	Snapshot Size	Consolidation needed
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් Sign out	2023-8-26 2023-8-28	3 2023-8-29 2023-8-31				VMware: Full name		



Closing Tips

Enhanced Data Analysis:

 Al enables more sophisticated and nuanced analysis of large datasets, extracting valuable insights that may be challenging for traditional methods.

Detection of Anomalies: (TOP)

 AI models excel in identifying anomalies and outliers in data, helping organizations quickly detect irregularities that may indicate potential issues or opportunities.

Predictive Analytics:

 By leveraging AI algorithms, organizations can perform predictive analytics, forecasting future trends and behaviours based on historical data, facilitating proactive decision-making.

Improved Accuracy and Consistency: (TOP)

 Al-driven reporting reduces the risk of human errors, enhancing the accuracy and consistency of analyses and reports.







TASK DEFINITION

Automation of Monitoring Automated escalation Remote Notifications



- Use automation wherever possible, not just in monitoring. For example, network discovery or automatic agent registration can automatically trigger a webhook in Zabbix, facilitating integration with Ansible EDI.
- External scripts can handle routine tasks in the background without your direct involvement.
- **Typically, you have two options**: Manual or Automatic.





Automation

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Maps	Parameters/Manual input parameter	Manual I	* Commands	echo "Here you can have for example ansible playbook				All	All	Read
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			Required host permissions	Read Write						
			Advanced configurat	ion						
			Enable user input							
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			Input type	String Dropdown						
			* Dropdown options	Zabbix Agent,Zabbix Agent 2,test]					
			Enable confirmation							
			* Confirmation text	Are you sure?	Test confirmation					
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			Input type	String Dropdown					
			Default input string	Default					
			* Input validation rule	.*					
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Escalation

- Use intelligent escalation with Acknowledge actions.
- Use different users or medias.
- Ensure to select the appropriate event severity!
- Be assertive during nighttime.







Escalation

Action		Operation details	×				×
Action	Operations 3	Operation	Send message				
	* Default operation step dura	Steps	2 - 2 (0 - infinitely)				
	Operat	Step duration	0 (0 - use action default)	start in	Duration	Action	
			At least one user or user group must be selected.	nmediately	Default	Edit Remove	
		Send to user groups	type here to search Select	1.00.00	Deladit		
	Recovery operat	Send to users	alois.zadrazil@initmax.cz (Alois Zadražil) × Select				
			type here to search				
		Send only to	- All - 🗸				
	Update operat	Custom message					
		Conditions	Label Name Action				
Pause	e operations for symptom probl		A Event is not acknowledged Remove				
Pause o	perations for suppressed probl		Add				
	Notify about canceled escalat		Update Cancel				
		* At least one ope	ation must exist.				
				_			
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Escalation

Action						×
Action	Operations 3					
	* Default operation step duration	1h				
	Operations	Steps Details 1 Send message to users: tomas.hermanek@initmax.cz (Tomáš Heřmánek) via all media 2 Send message to users: alois.zadrazil@initmax.cz (Alois Zadražil) via all media Add	Start in Immediately 01:00:00	Duration Default Default	Action Edit Remov Edit Remov	9
	Recovery operations	Details Action Notify all involved Edit Remove Add Edit Remove				
	Update operations	Details Action				
Pause	e operations for symptom problems					
Pause o	perations for suppressed problems	\checkmark				
	Notify about canceled escalations	\checkmark				
		* At least one operation must exist.				
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- Most of monitoring systems have API endpoints for obtaining or adding additional events data.
 - Many Service Desk systems can optionally execute scripts.



Problem	VIEW	Show tags None 1 2 3 Tag name Full Shortened None
Severity Not classified Warning Information Average	Problems History	 Priority comma-separated list rational data None Separately With problem name
Age less than 14 days	CONFIGURATION Trigger	Show timeline
Show symptoms	Items	Show details Highlight whole row
Show suppressed problems Acknowledgement status All Unacknowledged Acknowledgement status	PROBLEM Mark as cause	
	Mark selected as symptoms	y Reset
☐ Time ▼ Severity Info Host Problem	Jira: ZBX-55 Trigger URL	Update Actions Tags
01:50:20 PM Warning Jira Servicedesk Meetup application		Update 4 Application: Meetup TEST: Testzbx_jira_issuekey:
		Displaying 1 of 1 found





ZABBIX-INITMAX Service project	Projects / 🔁 ZABBIX-INITMAX / 🗹 ZBX-55	⋞ ≝ ⊙ 1 ျ∆ ≪ …		
	[PROBLEM] Meetup application is DOWN!	Open - 🗸 Actions -		
Queues	Create subtask & Link issue - Add Tempo to plan and track time	Details		
Q Service requests				
▲ Incidents	Tomáš Heřmánek raised this request via Jira	Assignee Unassigned		
Problems	Description	Reporter Tomáš Heřmánek		
🧞 Changes	Problem started at 13:50:20 on 2023.12.18 Problem name: Meetup application is DOWN!	Request Type None		
Post-incident reviews	Host: Jira Servicedesk Severity: Warning	Knowledge base 📮 1 related article 🗸		
OPERATIONS	Operational data: Down (0) Original problem ID: 14513365	Components None		
🛄 Change calendar	https://www.initmax.cz/zabbix-monitoring/	Priority ~ Low		
-CO Services		Labels Application:Meetup TEST:Test		
🗘 Alerts	Similar requests ···· 🗸			
(⊷ On-call		More fields Request participants, Approvers, Organizations, 👻		











ZABBIX can't do

Really?





Tomáš CEO



ZABBIX

PREMIUM PARTNER

Tomáš Developer



Alois **Technical consultant**



Marek **Technical consultant**

Vojtěch **Technical consultant**

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THANK YOU & SEE YOU ON EVENT





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