PANDORAFMS
E N T E R P R I S E

SAP MONITORING WITH PANDORA FMS

Pandora FMS for SAP

Pandora FMS has a specific solution pre-configured to monitor any of the SAP environments (R/3, CRM, SRM, BI, XI/PI, WAS, Netweaver, etc.)

It also has a default set of monitors that will save us the time to do a daily checklist of the system, and will allow to sent alerts reporting of each of the events
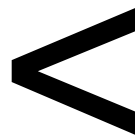
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ADVANTAGES OF PANDORA FMS PLUGIN SERVER FOR SAP
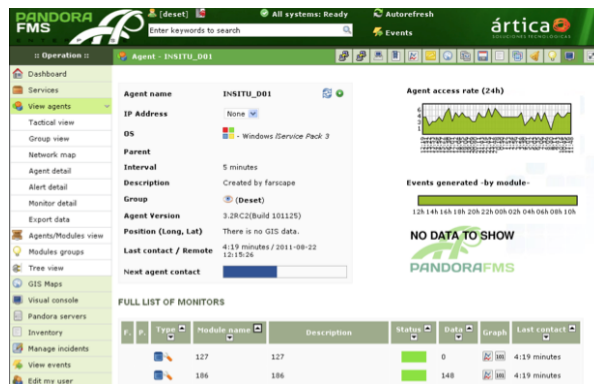
Advantages

1. Timesaving

System **administration** will be easier and the **time** used for routine checks (checklists) will be r**educed**.

Advantages

2. Greater automatism

Automatism while sending reports… **to inform** at any moment to the funtional teams or end users about the **system** status in order to determine what **corrective actions** to take.
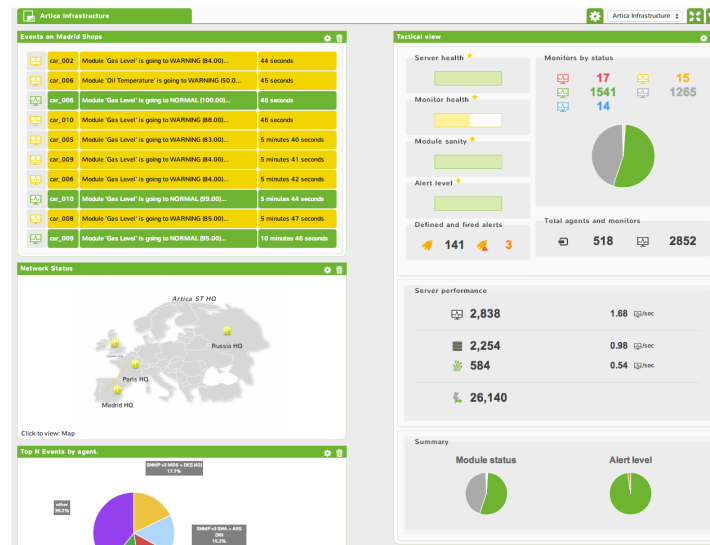
Advantages

3. Non intrusive installation

There is **no need** to install anything in the SAP servers (**no transports, no add-ons)**, just create a user in our SAP system and that's all. The whole development is implemented in the plugin itseld.

Advantages

4. 360º Monitoring / Full stack

With the same tool is possible to monitor systems and databases from all the environments and technologies related to SAP environments.
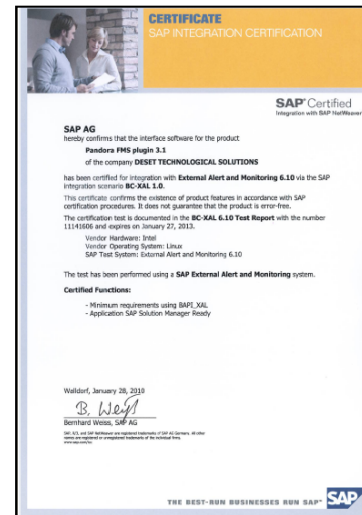

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Advantages

5. Certified software by SAP

6. Highly experienced development

The login of the plugin is developed by our BASIS team and functional of XI/PI with 10 years of experience.

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SYSTEM CHECKLIST

System up

Monitor: System up.

Description: It will make a connection against the system indicating the status. (0:login ok, 1:no login)

PID	DATA	System SAP up	300		101	N/A - D/1	0	4:45 minutes

Monitor: System up (text).

Description: It will make a connection against the system indicating the status. In case of no login it will show the connection error of the SAPGUI.

PID	TEXT	System SAP up:[...]nection error	300		101	N/A - N/A	Login ok	4:30 minutes

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Control of workprocess (SM50)

Monitor: Control of the workprocess (SM50).

Description: There are several monitors that will help us to control the status of each of our workprocess. If they are stopped, the number of erroneous, if there is any process without active reset…

	No.	Type	PID	Status	Reason	Rest...	Err	Sem	CPU
	0	DIA	10451	Running		Yes			
	1	DIA	28038	Waiting		Yes	1		
	2	DIA	10453	Waiting		Yes			
	3	DIA	10454	Waiting		Yes			
	4	DIA	10455	Waiting		Yes			
	5	DIA	10456	Waiting		Yes			
	6	DIA	10457	Waiting		Yes			
	7	DIA	10458	Waiting		Yes			
	8	DIA	10459	Waiting		Yes			
	9	DIA	10460	Waiting		Yes			

Process Overview

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Control of workprocess (SM50)

Monitor: DIA workprocess with errors.

Description: It will show the number of dialogue workprocesses with errors.

	1	DIA	28038	Waiting		Yes	1

PID		DATA	Error WP DIA in system	300			101	N/A - D/J	0	4:44 minutes

Monitor: BGD Workprocess with errors.

Description: It will show the number of batch workprocesses with errors.

	17	BGD	27319	Waiting		Yes	1

PID		DATA	Error WP BTC in system	300			101	N/A - D/J	0	4:35 minutes

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Control of workprocess (SM50)

Monitor: UPD Workprocess with errors.

Description: It will show the number of update (UPD) workprocesses with errors.

| 22 | UPD | 6254 | Waiting | | Yes | 1 |

| PID | DATA | Error WP UPD in system | 300 | | 101 | N/A - D/J | 0 | 5:03 minutes |

Monitor: UP2 Workprocess with errors.

Description: It will show the number of update (UP2) workprocesses with errors.

| 35 | UP2 | 6275 | Waiting | | Yes | 1 |

| PID | DATA | Error WP UP2 in system | 300 | | 101 | N/A - D/J | 0 | 5:03 minutes |

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Control of workprocess (SM50)

Monitor: SPO Workprocess with errors.

Description: It will show the number of spool workprocesses with errors.

| 32 | SPO | 6272 | Waiting | | Yes | 1 |

| PID | | DATA | Error WP SPO in system | 300 | | | 101 | N/A - D/J | 0 | 5:02 minutes |

Monitor: ENQ Workprocess with errors.

Description: It will show the number of enqueue workpreocesses with errors.

| 24 | ENQ | 6256 | Waiting | | Yes | 1 |

| PID | | DATA | Error WP ENQ in system | 300 | | | 101 | N/A - D/J | 0 | 4:55 minutes |

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Control of workprocess (SM50)

Monitor: Workprocess without active reset.

Description: It will show the number of workprocess who have disabled the automatic restart in case of failure.

						1	DIA	27209	Waiting	No

TSZ	DATA	WP without active reset	300		⚡ 101	N/A - 0/1	0	2:37 minutes

Monitor: Stopped Workprocess.

Descripción: It will show the number of stopped workprocess in the system.

						1	DIA	-1	Stopped	No	1

TSZ	DATA	WP stopped in the system	300		⚡ 101	N/A - 0/1	0	2:38 minutes

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Locking entries in the system (SM12)

Monitor: Locking entries in the system (SM12).

Description: It will show the number of locking entries in the system.

PID	DATA	Block inputs i[...]stem -amount-	300		101	N/A - D/J	0	3 seconds

Monitor: List of locking entries in the system (SM12).

Description: It will show a list of the locking entries in the system. The result will have the following format: `<tabla_bloqueo>=<Lock mode (share/exclusive)>`

PID	DATA	Block inputs i[...]stem -amount-	300		101	N/A - D/J	0	3 seconds

Table name	
Lock argument	
Client	200
User name	*

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Update process control (SM13)

Monitor: Update register control canceled.

Description: It will show the number of updates canceled in the last 24 hours. This way, every morning we could see what updates have been cancelled and we could interact with them if necessary.

Control of batch inputs with errors (SM37)

Monitor: Number of batch inputs with errors in the system since yesterday. (SM35).

Description: It will show the number of batch inputs with errors in the system since yesterday. This way it will be possible to report of the cancelation of them at any moment.

Control of canceled jobs (SM37)

Monitor: Controls the canceled jobs in the system (SM37).

Description: It will show the number of canceled jobs in the system in the last 24 hours. Thus, at the beginning of the day we will know how is our production going.

PID	DATA	Job cancelled [...]rday (amount)	300			N/A - D/]	48	2:20 minutes

Monitor: List of canceled jobs in the system (SM37).

Description: It will show a list of canceled jobs in the system in the last 24 hours.

PID	TEXT	Job canceled s[...]terday (list)	43200			N/A - N/A	SLCA_LCK_SYN	15:11 minutes

Job	Spool	Job Doc	Job CreatedB	Status
400066699144			██████	Canceled

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Control of dumps (ST22)

Monitor: Controls the dumps produced in the system (ST22).

Description: It will show the number of dumps produced in the system in the last 24 hours.

PID	DATA	DUMPS since yesterday	43200		101	N/A - D/J	3	15:13 minutes

Monitor: Controls the dumps produced by the system (ST22).

Description: It will show a list of dumps produced in the system in the last 24 hours.

PID	TEXT	DUMPS yesterda[...] and amounts)	43200		101	N/A - N/A	CONNE_IMPORT	15:22 minutes

List of Selected Runtime Errors

Runtime Errors

Current Date	Time	App.Server	User Name	Cli...	...	Name of runtime error
18.08.20...	13:46:02	S████████B_...	B██████B	200	C	PERFORM_PARAMETER_MISSING

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Control of idocs (WE05)

Monitor: Controls the idocs with errors in the system (WE05).

Description: It will show the number of idocs with errors in the system in the last 24 hours.

PID		DATA	Error IDOC since yesterday	43200			101	N/A - N/A	0	14:43 minutes

Monitor: Controls the correct idocs in the system (WE05).

Description: It will show the number of correct idocs in the system in the last 24 hours.

PID		DATA	OK IDOC since yesterday	43200			101	N/A - N/A	0	15:08 minutes

Selected IDocs

IDoc Number	Segm...	Sta...	Sta...
0000000003750012	3	53	◯◯◯◼
0000000003750013	1	03	◯◯◯◼

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Control of tablespace (DB02)

Monitor: Controls the size of the tablespace indicating those who are above 95%.

Description: It will show the number of tablespace who are above 95%.

PID		DATA	Oracle: Tables[...]ceed 95% used	4000			101	N/A - 0/10	4	34:51 minutes

Monitor: Listado tablespace junto con su % ocupado (DB02).

Description: Gets a list of each tablespace with it's % occupied.

PSAPW13702	24.000,00	8.780,69	63	NO	24.000,00	8.780,69	63

PID		TEXT	Oracle: Tables[...]more % usuage	300			N/A - N/A	PSAPSAUX = 0	3 seconds

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Control of users logged (AL08)

Monitor: Number of users logged in the system (AL08).

Description: It will show the number of users logged in the system. This will allow us to know the number of active users before shutdown.

SAPFI01_C13_00	Client	User Name	Terminal	Transaction Code	Time	Ext. Sess.	Int. Sess.
	200	~~ENT00999~~	~~900000NOA~~		18:04:58	1	1
	200	~~EN00001~~	~~1060 Hoge~~	IW38	18:04:21	3	5
	200	~~HU00001~~	~~1001 HOTA~~	IE05	18:03:07	1	2
	200	~~ENT00999~~	~~90000NOA~~	AL08	18:04:58	1	2

PID		DATA	Users logged in the system	300		101	N/A - 0/20	18	4:47 minutes

Control qRFC queues and RFC transactionals

The following monitors are oriented to detect possible collapses/delays in sending messages in SAP XI/PI, BW, CRM, APO systems, controlling the input queues, output and transactional RFC , checking errors and downtime activity.

Control of entries in the qRFC queues

Monitor: Control in the qRFC outbound queues (SMQ1).

Description: Returns the number of inputs in the qRFC outbound queues, equivalent to information SMQ1.

PID		DATA	SMQ1 number en[...]utbound queue	300			101	N/A - N/A	0	4:56 minutes

qRFC Monitor (Outbound Queue)

Monitor: Control in the qRFC inbound queues (SMQ2).

Description: Returns the number of inputs in the qRFC inbound queues, equivalent to information SMQ2.

PID		DATA	SMQ2 number en[...]inbound queue	300			101	N/A - N/A	0	4:52 minutes

qRFC Monitor (Inbound Queue)

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Control of errors in the qRFC queues

Monitor: Control in the qRFC outbound queues (SMQ1).

Description: Returns the number of inputs with errors (SYSFAIL) in the qRFC outbound queues, equivalent to the information SMQ1.

PID		DATA	SMQ1 number en[...]utbound queue	300			101	N/A - N/A	0	4:56 minutes

qRFC Monitor (Outbound Queue)

Monitor: Control in the qRFC inbound queues (SMQ2).

Description: Returns the number of inputs with errors (SYSFAIL) in the qRFC inbound queues, equivalent to the information SMQ2.

PID		DATA	SMQ2 number en[...]inbound queue	300			101	N/A - N/A	0	4:52 minutes

qRFC Monitor (Inbound Queue)

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Control of tRFC errors

Monitor: Control of the transactional RFC (SM58).

Description: Returns the number of inputs with errors (SYSFAIL) of tRFC delivery attempts. Messages could be filtered by age or otherwise select all of them.

| PID | DATA | SM58 number en[...]FC in SYSFAIL | 300 | | 101 | N/A - N/A | 0 | 4:57 minutes |

Transactional RFC

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Caller	Function Module	Target System	Date	Time	Status Text
ALEREMOTE	IDOC_INBOUND_ASYNCHRONOUS	▓▓▓	08.07.2011	20:26:21	RFC destination ▓▓▓ does not exist.
ALEREMOTE	IDOC_INBOUND_ASYNCHRONOUS	▓▓▓	30.04.2011	09:05:22	Error opening an RFC connection.
ALEREMOTE	IDOC_INBOUND_ASYNCHRONOUS	▓▓▓	12.03.2011	09:05:41	Error opening an RFC connection.
EXT90230	IDOC_INBOUND_ASYNCHRONOUS	▓▓▓	01.06.2011	01:17:05	Acceso clave acceso ya no es posible: Demasiados i

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Control of minutes without processing qRFC

Monitor: Control of minutes without processing qRFC outbound (SMQ1).

Description: Returns the number of minutes that the latest message of the outbound qRFC queues has been without being processed.

PID	DATA	SMQ1 minutes f[...]RFC outbound	300		101	N/A - N/A	0	4:56 minutes

Monitor: Control of minutes without processing qRFC inbound (SMQ2).

Description: Returns the number of minutes that the latest message of the inbound qRFC queues has been without being processed.

PID	DATA	SMQ2 minutes f[...]qRFC inbound	300		101	N/A - N/A	0	4:52 minutes

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Security audit

In the same way, Pandora FMS allows to control security parameters, user control permissions SAP_ALL, permite controlar parámetros de seguridad, control de usuarios con permisos SAP_ALL, change control..

Many of them inform about fixed parameters, but should be considered when managing a system, and configurable to add more.

login/disable_multi_gui_login	0
login/disable_password_logon	0
login/failed_user_auto_unlock	0
login/fails_to_session_end	3
login/fails_to_user_lock	3
login/isolate_rfc_system_calls	0
login/min_password_diff	1
login/min_password_digits	0
login/min_password_letters	0
login/min_password_lng	6
login/min_password_lowercase	0
login/min_password_specials	0
login/min_password_uppercase	0

Profile assignments: 9 of 9 users have assignment

User Name	Complete name	Profile	Text
ALEREMOTE	ALEREMOTE Usuario Int...	SAP_ALL	
BC-GRC	Usuario RFC GRC BC-GRC	SAP_ALL	
DDIC	DDIC	SAP_ALL	
~~EXT04559~~	~~Administrador SAP/DCI~~	SAP_ALL	
		SAP_ALL	
		SAP_ALL	
~~PM-PRO-1~~	~~PM-PRO-1~~	SAP_ALL	
SAPSUPPORT	SAPSUPPORT	SAP_ALL	
SAP*	SAP*	SAP_ALL	

Security audit

Monitor: Retrieve an instance profile parameter.

Description: Informs about the the value of an instance profile parameter to control relevant parameters that don't be changed.

Monitor: Control of historical changes (SUIM).

Description: Retrieve the historial of changes, the quantity of change to add/ modify an authorization profile within X days prior to execution.

Monitor: Query to a particular table.

Description: Allows to make queries to particular tables to control different critical parametrization points.

Security audit

An example of the possibilities offered by this monitoring point will be displayed:

- Number of invalid login attempts until user → parameter lock login/ fails_to_user_lock

- Min. number of chars which differ between old and new password → login/min_password_diff

- Min. Number of digits in passwords → login/min_password_digits

- Minimum Password length → Login/min_password_lng

- Amount of words in the not allowed passwords list.

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Security audit

- Amount of users not logged in the last 3 months (to save in SAP licenses).

- Number of users that have never access to and have the initial password INIT (additionaly to save in SAP licenses).

- Amount of users that have permission to create or modify users.

- Number of users by default (SAP*, DDIC, SAPCPIC y EARLYWATCH) that have their own default passwords.

- Number of users with SAP_ALL profile.

- Status: If the User audit is active or not.

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3

SYSTEM
ALERTS

System alerts

Through the alerts usage and depending on the parametrization that we indicate, Pandora FMS will send emails, SMS, etc., reporting of each of the alerts triggered in our systems.

Besides, we could send customized reports with graphs, SLA, events, advanced events…

Pandora FMS & Solution Manager

Adding the capacities of Pandora FMS for SAP to the SAP Solution Manager, we have a daily monitoring of dozens of checkpoints, spending only a day in configuring.

No need to apply patches in the Solution Manager and require experts in this monitoring area of the solution manager.