Data Sheet

FM

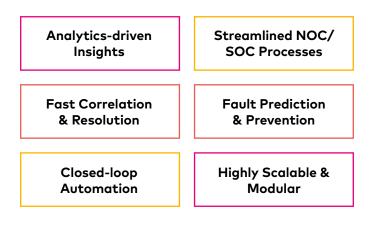
Amdocs Fault Management (FM)

amdocs |

Streamline your network operations

Communications service providers (CSPs) are being confronted with the ever-growing challenge of delivering exceptional quality of service (QoS), quality of experience (QoE) and customer satisfaction. This challenge is particularly pronounced within network and service operations centers (NOCs and SOCs), where teams face immense pressure to swiftly investigate, prioritize and resolve issues. In this demanding environment, the efficient management and resolution of network faults have emerged as critical factors, not only to guarantee high customer satisfaction but also to foster sustainable business growth.

Amdocs FM is a centralized system for the management of faults and alarms in complex carrier networks. As part of Amdocs Service Assurance Suite, the system provides deep network visibility and an array of advanced tools that help automate the fault resolution process. These capabilities empower teams to prevent network problems before they occur by acting upon alerts in real time and determining the root-cause of critical issues.



From raw data to automated fault resolution

Amdocs FM is an end-to-end solution for managing network events, providing comprehensive support throughout the entire fault management process, and simplifying the task of overseeing network health. This includes collecting event data, receiving alerts, creating trouble tickets, diagnosing and investigating network issues, analyzing network events, correlating faults and automating their resolution.



Amdocs' FM's cloud-based architecture helps resolve the challenges of monitoring distributed networks, with continuous 24/7 availability and the decoupling of data collection and manipulation. The solution connects to the network through a scalable, bi-directional mediation tool. Within the solution are network data adaptors that collect and process large amounts of data in real-time, supporting all major technologies, protocols and equipment vendors. Meanwhile, its alarm flooding protection mechanism assures the ability to process alarms, even during massive spikes in activity.

Fault management made easier

With the rising complexity and increasingly dynamic nature of carrier networks, NOC and SOC teams face the challenge of responding to a growing number of system events and alarms. This becomes even more pronounced due to the added burden of limited resources and in-house expertise. Furthermore, the absence of the right tools and processes leaves them ill-equipped to accurately detect the root cause of complex problems.

Total Alarms	Number of Clusters	Total Alar	rms in Ou	ster % Re	duction	% of /	Narms in Clust	er		
22,692,482	59,256	7,488	,520	24	%	339	% 💻 👘			
luster Investigatio	n	121	Open C	9						59,256 Clusters Display 1-2
-			ш.	Outer ID	Arg Duration	From Stars	CoName	CoName	Parent Logic ID	Parent Alarm Name
				Υ.	Ŧ	٣	۰ ۲	Υ •	T AI	T AI
			~	8893	00:05:48	2	8893	8893	ERCSSON, MW, SOEM, NE, BERB,	Ericsson ROUTE SET UNAVALABL.
				49038	00:07:15	6	49038	49038	Res, Alarm, 78, 191324	Ericsson SIP ROUTE UNAVAILABLE
		•		26562	00:50:33		26562	26562	Res_Alarm_78_191319	Encision T1 in a Bundle Down - L.
				49145	005410	2	49145	49145	IP_10.50.222.2_coldStart	Ericsson LTE AWS-C4055001 BA
		•		13891	00:08:47	4	7684	25270	P_10.50.222.2/10.10.40.1_10.10	Ericsson LTE AMS W2055001 BA _
•		1		25338	00:51:20	1	6833	9367	IP_10.50.222.2_authenticationFai	Ericsson LTE AMS-C4055001 BA
		· ·		25270	00/20:42		6342	49052	P_10.50.222.2/10.110.30.1_10.11	Encision LTE AMS-55055001 BA.,
-				9367	00.41.18	4	54898	49423	CISCO_CPU_10.50.222.2_cpmCPU	Ericsson P3055A51 COMMUNIC
-				49052	00:08:40	4	8779	7684	ALR_WAP_Gateway	Encision LTE AMS-C3055001 BA
Alarms in cluster	Custer Repetiti			49423	00.34.49	2	5633	6833	ALR,HGG4724,ONT	SYU05560 Ethernet Switch Port
		un .		7684	00:50:33	4	13891	13891	Res_Alarm_78_191324	Ericsson ROUTE SET UNAVAUABL
EE		2.401		6833	00:54:10	2	25338	25338	Res_Alarm_78_191319	Ericsson SIP ROUTE UNRIALABLE
				6342	00:08:47	5	25270	25270	IP_10.50.222.2_coldStart	Ericsson T1 in a Bundle Down - t_
Alarms in history	Cluster Duration	n •		54898	00:51:20	1	9367	9367	IP_10.50.222.2/10.10.40.1_10.10	Ericsson LTE AMS-C4055001 BA
75		-0		8779	00/20/42	2	49052	49052	IP_10.50.222.2_authenticationFai	Erksson LTE AM5-W2055001 BA
500 5.	00:00:00	00:30:00		5633	00.41.18	2	49423	49423	P_10502222/10.110301_10.11	Ericsson LTE AMS-C4055001 BA
				9367	00:08:40		2684	76.64	P_10.50.222.2/10.110.30.1_10.11	Encision LTE AWS-C4055001 BA

Amdocs FM addresses these challenges, equipping engineers with a set of tools that:

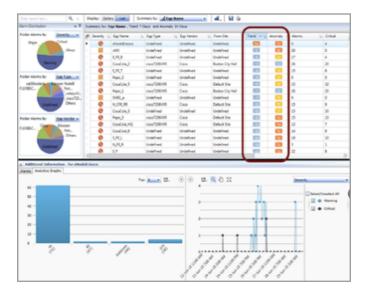
- Automatically group alarms into clusters and identify their root cause
- Identify problems and predict their impact before they occur
- Reduce the number of alarms and prioritize them
- Reduce mean time-to-repair (MTTR)

Machine learning root cause analysis

Machine learning root cause analysis (ML-RCA) adds an important level of automation to fault management, extending traditional rule-based RCA with adaptive mechanisms to quickly locate the source of network problems. Through unsupervised machine learning algorithms, ML-RCA studies and analyzes the stream of alarms coming into the system, both offline and in real-time, automatically grouping, correlating and tagging the potential root-cause for faster resolution.

Trend and anomaly detection

Network and service operations centers tend to concentrate on active alarms, focusing only on the most severe. However, there is a risk of overlooking underlying issues that may be quietly developing beneath the surface. Amdocs Trend & Anomaly module detects these emerging problems before they escalate. It's powered by algorithms that analyze historical data from various entities such as cell sites, equipment, virtual and physical network functions (VNF/PNF), services and customers, and produce two scores for each analyzed entity: "trend" and "anomaly". Rules can be created to factor in these scores, which, in turn can trigger alarm notifications, diagnostics or corrective actions.



Screener

Screener is a tool for reducing and prioritizing alarm "noise." Based on an automated analysis of alarm history and user actions, it assigns each active alarm one of three tags to mark its importance: "premium", "standard" or "spam," which help NOC and SOC teams become more efficient by focusing their attention on the most important issues.

The automated NOC/SOC

When services (or their underlying network elements) are down, much time is spent analyzing data and events to identify what needs to be corrected. Amdocs FM provides an integrated set of tools that streamlines the entire process – managing, diagnosing and resolving faults more quickly, leading to significantly reduced downtime.

End-to-End alarm correlation

Amdocs FM features powerful alarm correlation and RCA tools, which when combined, increase NOC/SOC efficiency and reduce time-to-repair by suppressing symptomatic alarms and detecting the root cause of issues. These tools include:

- Machine-learning root cause analysis
- Correlator expert system
- Patented correlator TRS (topology-based reasoning system)

Ø.,		- 16 - 10	Description To Alarmed O	Ÿ ₆ ⊕ Alarmed O Ÿ ₆ ⊕	9.9.0	1110	6
	(STM 4 Link Failure on MSPP-Metro-RM-12/STM4-12_MSPP-Core-RM-03/STM4-12 MSPP-Metro-R	M-12 Physical Link	🔏 п	T0000000001093	1
d	Child A	larms					
3	Expand	All					
ri i	1		Logic ID 💩 Description 💩 Eqp Name	Reporting Element	8		ρ
		0	Loss of signal on Loss of signal on MSPP-Core-RM-03 MSPP-Core-RM-03	Transmission	-		
1.8	8	0	EoSDH Link Failu EoSDH Link Failure on MSPP-Access	Esperto	- 64	Closed	
	•	0	IUB Link Failure IUB Link Failure on eNode8-RM-02/	Esperto	۵.		
	•	0	IUB LA Failure IUB Link Failure on eNodeB-RM-03/	Esperto	2	Closed	
		1	EoSDH failu. EoSDH failure on MSPP-Access-RM MSPP-Access-RM-13	Transmission	-		
		1	EoSDH fritan an	Transmission			
		0	Loss of a Automatic Correlation -Metro-RM-12	Transmission		Closed	
_			Engine				_

Automatic fault resolution

Amdocs FM includes advanced diagnostic and investigation tools that provide operations teams with greater capacity to resolve alarms faster and close the loop with restorative actions. Rules can be created to automate alarm-related activities that are aligned with NOC/SOC related work processes, empowering users with a set of criteria and actions that can be triggered automatically. Examples include: send commands to the network elements, send notifications and escalations, change alarm display and color – and modify alarm content.

FaultPro

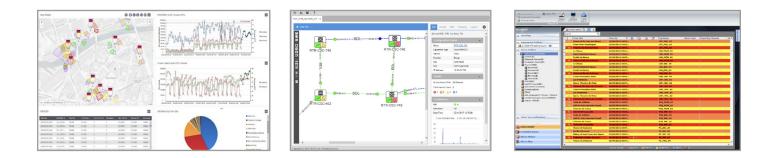
FaultPro is an automatic fault resolution tool that sends automated corrective actions to the network. The tool is configured to automatically isolate faults by querying network elements, identify the source of the problem and associate actions to alarms based on a set of flexible rules. It also supports closed-loop operational processes with automatic and semiautomatic fault correction capabilities.

Standard APIs

Amdocs FM uses standard APIs, leveraging the latest technologies, which enable fast integration with other OSS systems using two integration methodologies – Request/Reply and notification publication.

Additional advanced fault monitoring tools

- Sentinel: a centralized user interface for accessing all modules, views and user actions across the Amdocs platform. The intuitive interface includes customized widgets and drill down options to help NOC and SOC teams monitor the status of services, network resources, sites and customers.
- **Cruiser:** a diagnostic module that provides a customized view of alarms generated by network equipment and services and monitors performance thresholds.
- **Schematic views:** visually depicts the schematic representation of network elements and services, with an emphasis on abnormal events.
- **FM history analysis client:** an investigative tool for quickly retrieving and viewing alarm history based on selected criteria.
- Service Impact: a tool for assessing and predicting which services and customers have or will be impacted by existing issues or a planned operation – improving maintenance planning and customer satisfaction.
- **FM Reporter:** enables users to detect and investigate critical problems and developing trends, and take proactive actions before events escalate.



Amdocs FM

Amdocs FM incorporates fault management capabilities enhanced by smart analytics, fast diagnostics, and automated resolution, enabling NOC and SOC teams to effectively manage faults, improve network performance and ensure uninterrupted operations. With smart analytics, it rapidly analyzes network data in real time, identifying potential faults, their root causes, and facilitating timely and precise remediation. Additionally, through fast diagnostics, it efficiently pinpoints and isolates issues, enabling rapid troubleshooting for fast resolution.

Cruiser	Last Updated: 21/06/2023 15:09	:50 +@+ Paused					600	◎@@@@@
Search		م 🔩	4 4 0 ₽	V			1 Sel	lected 1 - 200 of 688 ala
Sever	ity Time Up	Lop Name	Eqp Type	From Site	Area	Description	Reporting Element	Repe RCA
×	21/09/2022 00:00:00	VIC_IMMIGRATION_MU.	Encision_ENODE8	Immigration Museum	Melbourne	Threshold Crossing Su	TG	1 84.134475
~	21/09/2022 00:00:00	VIC_SEA_LIFE_533989	Ericsson_ENODEB	SeaLife	Melbourne	Threshold Crossing: Su	TG	1
×	19/09/2022 00:00:00	VIC_CITY_RD_KINGS_W	Ericsson_ENODE8	City Rd_Kings Way Stati	Melbourne	Threshold Crossing Su.,	TG	3
~	19/09/2022 00:00:00	VIC_EUREKA_SKYDECK_	Ericsson_ENODEB	Eureka Skydeck	Melbourne	Threshold Crossing: Su.,	тG	3
~	19/09/2022 00:00:00	VIC_EXYC25_EXHIBITIO	Ericsson_ENODE8	Exhibition Exchange	Melbourne	Threshold Crossing: Su.,	TG	3
×	19/09/2022 00:00:00	VIC_STPAUL_ST_PAUL_	Ericsson_ENODEB	St Paul's Cathedral	Melbourne	Threshold Crossing: Su.,	TG	3
~ ~	19/09/2022 00:00:00	VIC_SEA_LIFE_533989	Ericsson_ENODE8	Sea Life	Melbourne	Threshold Crossing: Su	TG	3
~	19/09/2022 00:00:00	VIC_LEOPOLD_ST_KILD	Ericsson_ENODE8	Leopold St_St Kilda Rd	Melbourne	Threshold Crossing: Su	TG	3
~	19/09/2022 00:00:00	VIC_CROWN_CASINO_5.	Ericsson_ENODEB	Crown Casino	Melbourne	Threshold Crossing: Su.,	TG	3
4	19/09/2022 00:00:00	WC_STURT_ST_KINGS	Ericsson_ENODE8	Sturt St_Kings Way Stati	Melbourne	Threshold Crossing: Su.,	TG	3
~	19/09/2022 00:00:00	VIC, BATMAN, PARK, S3.	Ericsson_ENODEB	Batman Park	Melbourne	Threshold Crossing: Su.,	TG	3
¥	15/09/2022 00:00:00	VIC_LEOPOLD_ST_KILD	Ericsson_ENODE8	Leopold St, St Kilda Rd	Melbourne	Threshold Crossed on S	TG	7
~	15,179/2022 00:00 00	VALUE AT ANY AT ANALY	ROSSON ENGINE	Over O. Knee Was Date	Maltourna	Threshold Drossed on S.,	TG	7
								Of 4 > ×
😘 D Details (Secto	_	06	000000		Alarms by Severity		0000	000000
	Identifiers	Extensions		300		0		
Name 136701216	Config1D 1367012	16 Ditension 1 Cl	LL GROUP MSA OPTIMISA	01		8		
Cell Site <u>WC_SEA_LI</u>	FE 533202 Narm ID	Extension 2 M	ELBOURNE VIC_MELB_CBD	200		-	121	
Associated	Physical ID	Extension 3		100		S 2		
Antenna Az., 228	Last Upd., 03/07/20	1815.05 Extension 4				-		

About Amdocs

Amdocs helps those who build the future to make it amazing. With our market-leading portfolio of software products and services, we unlock our customers' innovative potential, empowering them to provide next-generation communication and media experiences for both the individual end user and large enterprise customers. Our 31,000 employees around the globe are here to accelerate service providers' migration to the cloud, enable them to differentiate in the 5G era, and digitalize and automate their operations. Listed on the NASDAQ Global Select Market, Amdocs had revenue of \$4.58 billion in fiscal 2022.

For more information, visit Amdocs at <u>www.amdocs.com</u>



© 2025 Amdocs. All rights reserved. www.amdocs.com