

# Solusia Systems Fusion OSS Portfolio



Fault Management Systems  
Performance Reporting Suite  
Trouble Ticketing  
Location & E911  
Custom Software Development



## Simplicity for Operators in Complex Network Environments

5<sup>TH</sup> GENERATION, ROCK SOLID & PROVEN PERFORMANCE IN DEMANDING TIER I, II, & III CARRIERS

Solusia Systems uses a rules-based, web-enabled technology engine utilizing the latest interfaces, distributed architecture, and auto discovery capabilities for rapid installation / network variations. These built in features allow for a reliable, intuitive, user rich experience in local, regional and national roles.

## We've been there

OUR MANAGEMENT, DEVELOPERS, AND SUPPORT TEAMS HAVE DIRECT EXPERIENCE IN CARRIER OPERATIONS

Working for tier I, II, and III carriers have given our team unique insights into the operational challenges operators face on a daily, weekly, quarterly, and annual basis. Understanding complex engineering, key performance indicators, network restoration and root cause analysis, and cross functional group interface ensure we build our systems with your requirements and needs as our #1 priority.

## Flexible & Competitive Pricing Models

AS OPERATIONS BUDGETS ARE INCREASINGLY FORCED TO BECOME MORE EFFICIENT, WE HAVE SOLUTIONS

Unlike ridged, monolithic OSS providers, Solusia Systems understands and works with our customers to offer a variety of creative, competitive pricing models; hosting-based Cloud, OPEX, as well as traditional license models. We will work with you and your finance teams to get requests approved and delivered.

### SOLUSIA SYSTEMS PRODUCTS

- Seamless integration with other platforms & software
- Real-Time
- Drag & Drop customized screens
- Easy & Intuitive Administration
- User role authentication exceeds high security requirements
- Unified – Offering a single OSS platform

# Fusion Fault Management

Beginning with the first generation of wireless networks, our FMS is now in its 5<sup>th</sup> generation.

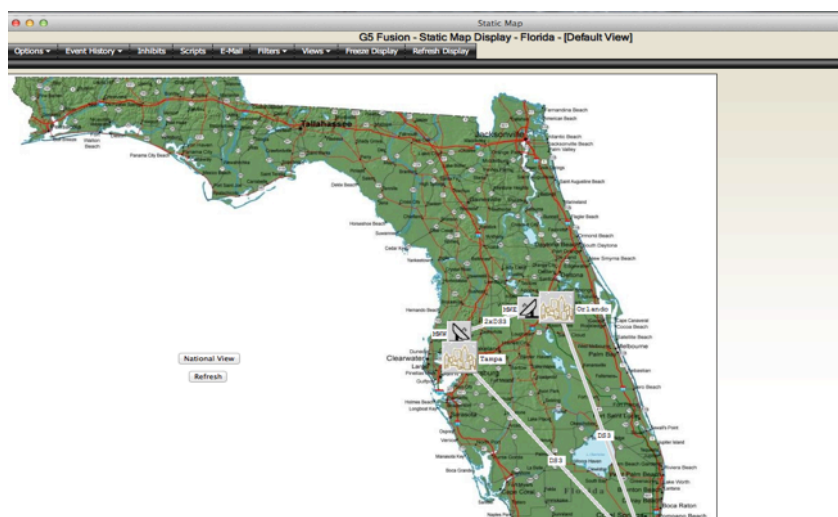
**From field technicians to senior management, the Fusion FMS informs real-time and quickly resolves network element failures – anywhere, on any device.**

## Key Fusion Features

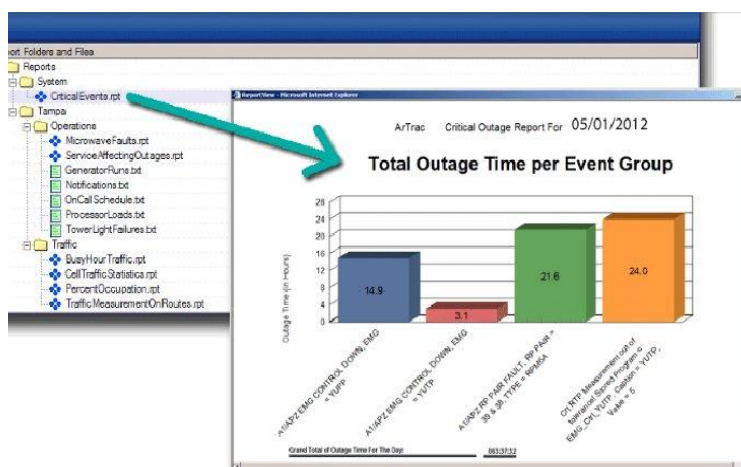
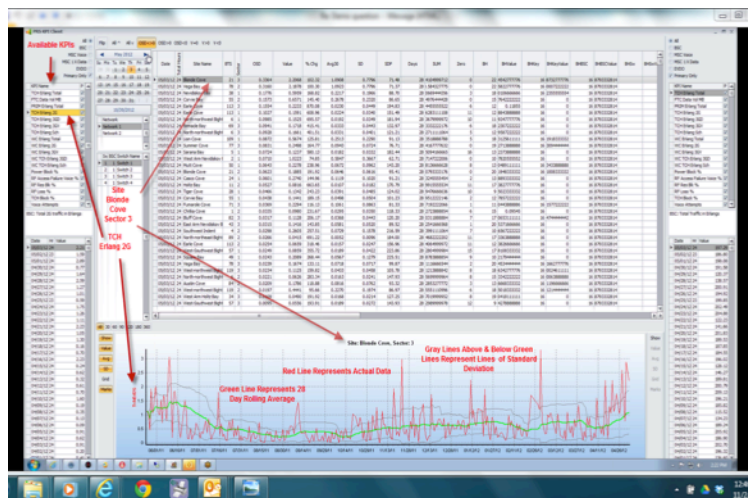
- SOX Compliant Desktop
- Dynamic Display
- Chronological Display
- Geo & IP Mapping
- Site Book Integration (all pertinent site information)
- Connection Manager
- Root Cause Analysis
- Instant Notifications in any format
- Customized views and automated reporting
- Auto Learning & Discovery
- Export data into widely used formats
- Intuitive, easy to use

GS Fusion - Chronological Display [KCDDefault View]									
Options ▾    Archive Activity ▾    Scripts ▾    E-Mail ▾    Export ▾    Views ▾    Print Display ▾    Refresh Display ▾									
Drag a column header here to group by that column									
Event #	Event Time	ACL	ORG	Region	Market	Label	Message		
1542202	12/4/10 17:26:38	Wgl	LOG	Southwest	Tampa	HMGR_0	BravoOn-SCCABattle		
1544816	12/4/10 17:26:38	Wgl	LOG	Pacific	Central	Laurel_Omp_3	CELL 156 CON2 HSG CRC HEARTBEAT		
1544812	12/4/10 17:26:38	Wgl	LOG	Pacific	Las Vegas	Bravo_0	A1 B7S EXTERNAL FAULT, BOHRCOP-41, R07H-026267, 24V RECTIFIER FAILURE		
1542297	12/4/10 17:26:38	Gst	LOG	Southwest	Las Vegas	Bravo_0	A1 B7S EXTERNAL FAULT, BOHRCOP-4, R07H-026267, COMMERCIAL POWER FAILURE		
1542202	12/4/10 17:26:38	Wgl	LOG	Southwest	Tampa	HMGR_0	BravoOn-SCCABattle		
1542202	12/4/10 17:26:38	Wgl	LOG	Southwest	Tampa	HMGR_0	BravoOn-SCCABattle		
1544840	12/4/10 17:28:22	Min	LOG	Pacific	Central	Glenaida_Omp	PAC0202 COM 3 AP 12 Signaling Link Down		
1542284	12/4/10 17:28:19	Wgl	LOG	Southwest	Tampa	HMGR_0	BravoOn-08854		
1542284	12/4/10 17:28:19	Wgl	LOG	Southwest	Tampa	HMGR_0	BravoOn-08854		
1544812	12/4/10 17:28:15	Wgl	CLF	Southwest	Phoenix	Laurel_Omp_1	CELL 167 CABINETRY DISRUPTION		
1544812	12/4/10 17:28:12	Min	CLF	Southwest	Tampa	HMGR_0	Billed and billed 2 Files		
1544812	12/4/10 17:28:12	Min	CLF	Southwest	Tampa	HMGR_0	Billed and billed 2 Files		
1542404	12/4/10 17:28:11	Min	LOG	Southwest	Las Vegas	Bravo_0	A1 B7S EXTERNAL FAULT, BOHRCOP-41, R07H-026268, GENERATOR RUN		
1544810	12/4/10 17:28:09	Min	LOG	Pacific	Central	Laurel_Omp_3	PAC0110 COM 3 AP 21 Signaling Link Down		
1542294	12/4/10 17:28:09	Wgl	LOG	Southwest	Tampa	HMGR_0	BravoOn-SCCABattle		
1544810	12/4/10 17:28:03	Min	LOG	Southwest	Tampa	HMGR_0	Billed and billed 2 Files		
1542282	12/4/10 17:28:03	Wgl	LOG	Southwest	Phoenix	Glenaida_Omp	CELL 156 FMS has lost three consecutive heartbeats with CRC		
1544805	12/4/10 17:28:00	Wgl	EXP	Pacific	Northern	HMGR_0	WadServer abrupt exception PAS_LINUVIGA_P02		
1544805	12/4/10 17:28:00	Wgl	EXP	Pacific	Northern	HMGR_0	No Connect PAS_LINUVIGA_P02 Port 8088		
1544805	12/4/10 17:28:00	Wgl	EXP	Pacific	Northern	HMGR_0	No Connect PAS_LINUVIGA_P02 Port 80		
1544814	12/4/10 17:28:00	Min	EXP	Pacific	Northern	HMGR_0	WadServer abrupt exception PAS_LINUVIGA_P08		
1544810	12/4/10 17:28:00	Min	EXP	Pacific	Northern	HMGR_0	WadServer abrupt exception PAS_LINUVIGA_P08		
1544810	12/4/10 17:28:00	Min	EXP	Pacific	Northern	HMGR_0	WadServer abrupt exception PAS_LINUVIGA_P04		
1544810	12/4/10 17:28:00	Gst	EXP	Pacific	Northern	HMGR_0	No Connect PAS_LINUVIGA_P08 Port 80		
1544810	12/4/10 17:28:00	Gst	EXP	Pacific	Northern	HMGR_0	No Connect PAS_LINUVIGA_P08 Port 8088		
1542401	12/4/10 17:27:59	Wgl	LOG	Southwest	Las Vegas	Bravo_0	A1 B7S EXTERNAL FAULT, BOHRCOP-41, R07H-026268, 24V RECTIFIER FAILURE		
1544809	12/4/10 17:27:59	Gst	LOG	Southwest	Las Vegas	Bravo_0	A1 B7S EXTERNAL FAULT, BOHRCOP-41, R07H-026268, COMMERCIAL POWER FAILURE		
1542337	12/4/10 17:27:57	Min	LOG	Pacific	Central	Laurel_Omp_1	PAC0110 COM 3 AP 20 Signaling Link Down		

Q5 Fusion - Dynamic Display (Default View)										
Options	Include	Exclude	Filter	Export	View	Print	Display	Refresh	Copy	
Expand child events to level: None <input checked="" type="checkbox"/> Root Cause Analysis <input type="checkbox"/> Mobile Compatibility Mode										
Drag a column header here to group by that column										
Event #	Event #	Location	TIA	ACL	Region	Market	Site	Status	Message	
1548832	120430	17:28:47	0001:01:00	OK	Pacific	Northern	PAN_LINVOX0A	M.B.	No Correct PAN_LINVOX0A P2d Port B0	
1542405	120321	14:14:39	174:16:40	OK	Southwest	Las Vegas	DR030	M.B.C.	A1 B7S EXTERNAL FAULT! MO-HOOD-42: RBSFD-420005 COMMERCIAL POWER FAILURE	
1548800	120430	17:28:50	0001:00:04	OK	Pacific	Northern	PAN_LINVOX0A	M.B.	No Correct PAN_LINVOX0A P12 Port B00	
1548847	120430	17:28:39	0001:01:15	OK	Pacific	Northern	PAN_LINVOX0A	M.B.	No Correct PAN_LINVOX0A P8d Port B0	
1548832	120430	17:27:05	0001:02:02	OK	Southwest	Phoenix	PH040-87	M.B.	CELL 187 COMB POB PAN	
1548836	120430	17:27:05	0001:01:06	OK	Southwest	Las Vegas	DR030	M.B.	A1 B7S EXTERNAL FAULT! MO-HOOD-42: RBSFD-420005 A BOK SURGE PROTECTORS	
1548849	120430	17:28:41	0001:01:11	OK	Pacific	Northern	PAN_LINVOX0A	M.B.	No Correct PAN_LINVOX0A P8d Port B00	
1542526	120423	11:22:23	174:07:29	OK	Southwest	Las Vegas	10 15:17	----	COMP just results: Onload is not responding	
1542374	120423	11:22:05	174:07:29	OK	Southwest	Las Vegas	10 15:17	----	COMP just results: Wireless AP is not responding	
1542372	120423	11:21:57	174:07:26	OK	Southwest	Las Vegas	10 15:17:254	----	COMP just results: HP 8500 is not responding	
1543397	120430	16:13:20	174:17:07	OK	Southwest	Las Vegas	V0504	M.B.C.	A1 B7S EXTERNAL FAULT! MO-HOOD-42: RBSFD-420005 COMMERCIAL POWER FAILURE	
1543391	120429	15:37:50	174:08:02	OK	Southwest	Las Vegas	10 15:17	----	COMP just results: GDSense is not responding	
1542398	120429	15:37:44	174:08:06	OK	Southwest	Las Vegas	10 15:17:107	----	COMP just results: Lysn's Redund Port is not responding	
1548835	120430	17:28:46	0001:00:07	OK	Pacific	Northern	PAN_LINVOX0A	M.B.	No Correct PAN_LINVOX0A P2d Port B00	
1542359	120423	15:37:37	174:08:18	OK	Southwest	Las Vegas	10 15:17:1	----	COMP just results: Logix Server is not responding	
1542355	120423	15:37:35	174:08:20	OK	Southwest	Las Vegas	10 15:17:1	----	COMP just results: Redund is not responding	
1548835	120430	17:28:46	0001:00:04	OK	Southwest	Phoenix	PH040-88	M.B.	CELL 187 CABINET PROTECTION	
1548836	120430	17:28:47	0001:01:06	OK	Southwest	Las Vegas	DR030	M.B.	A1 B7S EXTERNAL FAULT! MO-HOOD-42: RBSFD-420005 DOOR ALARM	
1542356	120321	14:15:39	174:16:17	OK	Southwest	Tampa	Nash 3	M.B.C.	Storage On B004	
1542354	120321	14:15:35	174:16:20	OK	Southwest	Tampa	Nash 3	M.B.C.	Storage On V01:04000	
1542352	120321	14:15:34	174:16:20	OK	Southwest	Tampa	Nash 3	M.B.C.	Storage On V01:04000	
1548844	120430	17:28:37	0001:00:06	Min	Pacific	Central	PAC0352	M.B.	PAC0352 COM 2 AP 23 Signaling Link Down	
1548850	120430	17:28:43	0001:01:09	Min	Pacific	Northern	PAN_LINVOX0A	M.B.	WebServer uncaught exception PAN_LINVOX0A P2d	
1548840	120430	17:28:22	0001:01:30	Min	Pacific	Central	PAC0352	M.B.	PAC0352 COM 1 AP 12 Signaling Link Down	







Date	Hour	cbl_id	Access Failure Numerator	Access Failure Denominator	Access Failure %
01/07/2012	0	XXXXXX	0.00	387.00	0.00%
02/07/2012	0	XXXXXX	0.00	1,330.00	0.00%
03/07/2012	0	XXXXXX	0.00	470.00	0.00%
04/07/2012	0	XXXXXX	1.00	1,340.00	7.46%
05/07/2012	0	XXXXXX	0.00	887.00	0.00%
06/07/2012	0	XXXXXX	0.00	1,765.00	0.00%
07/07/2012	0	XXXXXX	0.00	1,276.00	0.00%
08/07/2012	0	XXXXXX	0.00	134.00	0.00%
09/07/2012	0	XXXXXX	0.00	2,086.00	0.00%
10/07/2012	0	XXXXXX	0.00	5,950.00	0.00%
11/07/2012	0	XXXXXX	0.00	785.00	0.00%
12/07/2012	0	XXXXXX	0.00	1,642.00	0.00%
13/07/2012	0	XXXXXX	0.00	219.00	0.00%
14/07/2012	0	XXXXXX	0.00	307.00	0.00%
15/07/2012	0	XXXXXX	0.00	147.00	0.00%
16/07/2012	0	XXXXXX	0.00	649.00	0.00%
17/07/2012	0	XXXXXX	0.00	103.00	0.00%
18/07/2012	0	XXXXXX	0.00	707.00	0.00%
19/07/2012	0	XXXXXX	0.00	843.00	0.00%
20/07/2012	0	XXXXXX	0.00	870.00	0.00%
21/07/2012	0	XXXXXX	1.00	543.00	18.48%
22/07/2012	0	XXXXXX	0.00	303.00	0.00%
23/07/2012	0	XXXXXX	0.00	338.00	0.00%

## Performance Reporting Suite

The Performance Reporting Suite (PRS) from Solusia Systems is a technology agnostic solution that collects, analyzes, summarizes, and reports performance information from your network.

The PRS KPI Viewer provides detailed key performance indicators such as traffic and blockage information. Furthermore, it provides a visual trend analysis of any KPI's available in your network with running averages and standard deviation bands. The PRS KPI Viewer also allows our customers to switch between networks/ sub-networks at the click of a mouse button.

The PRS not only reduces cost by eliminating the need to purchase vendor specific performance management systems but also consolidates the performance information by market, region, or any other means with which you would like to segment your networks. Some features include:

- National, regional, and market level performance management with roll-up
- Roaming KPI's & Reporting
- Data collection, abstraction, aggregation, and warehousing
- Real time and historical performance monitoring and reporting with trend analysis and anomaly alerts
- Management quality on-demand and scheduled reports
- Sarbanes-Oxley compliant desktop Data parsers for most technologies
- Over 500 Key Performance Indicators (KPI's) which can be used in any combination for visual analysis or within reports Extensive existing report library (Custom reports can also be created)

# Fusion Ticketing Solutions

Our Trouble Ticketing platform is targeted for networks.

The Solusia G5 Trouble Ticketing System is an intuitive, web browser based trouble ticket application that integrates seamlessly to existing carrier FMS and the Fusion G5 Management Suite. No dedicated resources necessary.

- Allows both automatic system generated ticket creation from Fault Management (agnostic) as well as manual creation of trouble tickets.
- Automatic ticket creation is based on a simple to use rules engine that is fully tailored and customized to each client's needs.
- Once a ticket is created, whether system generated or manual, workflow functionality and integration to the G5 Site Book data repository drives ticket assignments, revisions, escalations, and acknowledgements from creation to problem resolution and ticket closing.
- Integration to the G5 Site Book provides both Site (address, contacts, landlords, etc.) and equipment inventory information that is tied to the ticket to maximize productivity and decrease problem resolution time.
- Combined with the Fusion G5 Management Reporting Suite (MRS), all trouble ticketing related data can be reported.

Ticket #	Status	Market	Site	Type	Sub Type	Description	Trouble Code	Ticket Open
12128-0001	Open	Phoenix	PHX0187	Field	Cell Equipment	Base Station Control	0000-000 - Undefined Trouble	12/28/10 10:10
12128-0001	Open	Las Vegas	LVS004	Field	Cell Equipment	Base Station Control	0000-000 - Undefined Trouble	12/28/10 10:10

**Trouble Ticket** **Site Information**

Severity: Critical Priority: 1 Region: Southwest Market: Phoenix

Origin: Event Ticket Event #: 12128001

Ticket Type: Field Sub Type: Cell Equipment Description: Base Station Control

Trouble: CELL 187 CDH PWR FAIL Site Book Reference: USD=PHX0187, SITE NAME=CELL 187

**Status and History**

Ticket Opened: 12/28/2010 14:10:59 By: J. J. (John Jackson) Closed: By:

Time Open: 27 Days 20 Hours 29 Minutes Escalation Level: 1

Trouble Code: 0000-000 - Undefined Trouble

User Group: Assigned To: (Select an Assignment) On: 12/28/2010 14:10:59

Last Assigned: 27 Days 20 Hours 24 Minutes

\* 12/28/10 10:10:59 (John Jackson) opened the ticket to (Select an Assignment)

**G5 Fusion Site Book Administration - Site Information**

**Site Properties**

Region: Southwest Market: Phoenix Site USID: PHX0187 Site Name: CELL 187

Cluster: Default

On Line Reference: [Click Here](#)

Map Display: Latitude: 27.61279 Longitude: -86.86816

Site Status: In Planning Site Technology: Unspecified

**Main Information**

Field Tech's Name: Manager's Name: County: Address Line 1: Address Line 2: City: State: NV Zip: Commission Date: 01/03/2013 Door Code: Field Tech's Phone #: Manager's Phone #: Township: Location Note 1: Location Note 2: Location Note 3: Primary Gate Code: Site Entry Code: Additional Access:

**911 Emergency Information**

FCC ID: Coverage Area: PSAP Alternate Route: PSAP ID: ERN Route Code: Police Dispatch: Agency: EA County Code: Fire Dispatch:

## Location-based N11 & E911 solutions



We are the database of record for a Tier 1 wireless operator for E911, N11 (location based services), and PSAP. This application toolset provides customers with the ability to enter and track E911, N11, and PSAP Phase I and Phase II deployments as well as the ongoing PSAP Accuracy drive test results for the various Requesting Entities (REs). It supports users with various levels of authority and access. This application is also integrated with Fusion's other suite of tools, supporting the concept of modular toolsets using a common platform. This application also integrates with the customer's E911 data sources and 3<sup>rd</sup> party PSAP geographic information. This combination of analysis, geographic visuals, and customer information provides a simple tool for visualizing a customer's FCC compliance, as well as providing the extensive regulatory information assistance needed for FCC submissions.

The Fusion E911/ N11/ PSAP application supports a wide variety of functions and technologies. PSAP information can be edited (given the proper access), visualized via GIS mapping, and filtered via a rich set of tools. Also included is an extensive reporting capability, providing build status, transport information, deployment data, PSAP coverage, PSAP accuracy using drive test data, as well as national PSAP contact information. The Fusion E911 application is an essential tool for improving regulatory efficiency in your corporation.

The GIS mapping component support areas of interest (AOI's), points of interest (POI's), as well as Latitude/ Longitude uploads. FCC Phases associated with customer deployment/ build status/ and accuracy are mapped using thematically shaded areas. Fusion E911/ N11/ PSAP is a combination of powerful analytics, exceptional visual presentation, and efficient FCC reporting support.





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