

Module 1

Introduction to IPFusion

Introduction

- Unified command and control
- HMI: Human Machine Interface
- Many independent systems on one desk
- Connecting disparate systems and devices
 - Communicates between systems
 - Single user interface
- Situational awareness and response
- Executes SOPs (Standard Operating Procedures)



Why IPFusion?



Why IPFusion? – One Integrated Solution

- Interact with separate systems through a central hub
- Provide users with a customizable user interface
- Increases efficiency and situational awareness
- Reduces administration time, simplifies monitoring
- Reduces operator training time and cost
- Enhances management reporting
- Scalable and expandable



IPFusion Overview



IPFusion Overview – Designer Application

The screenshot displays the IPFusion Designer Application interface. The main workspace contains a 'Map Container' (Height: 650, Width: 1300) and a 'Function Panel' (Height: 200, Width: 200). The interface includes a top menu bar with options like Home, Design, and View, and a toolbar with various icons. A left sidebar shows a 'Toolbox' with a search bar and a list of controls. A right sidebar contains a 'Project Explorer' and a 'Properties' panel.

Project Explorer

- NewProject
- Resources
- Display Layouts
 - Display Layout-0
 - Display Layout Items
 - Alarm Grid
 - Map Container
 - Message Banner
 - Navigation Item
 - New Function Panel
- Maps
 - Map-0
- Workstations
 - NewWorkstation-0
- Integrated Systems
- Workflows
 - Interactive Workflows

Properties

Search

Appearance

Background Color	
Border Color	
Border Thickness	0
Corner Radius	10
Visible	<input checked="" type="checkbox"/>

Behavior

Startup Maps: --

Design

Description	Map Container
ID	PanelItem-1

Layout

Height	650
Width	1300
X	0.00
Y	0.00

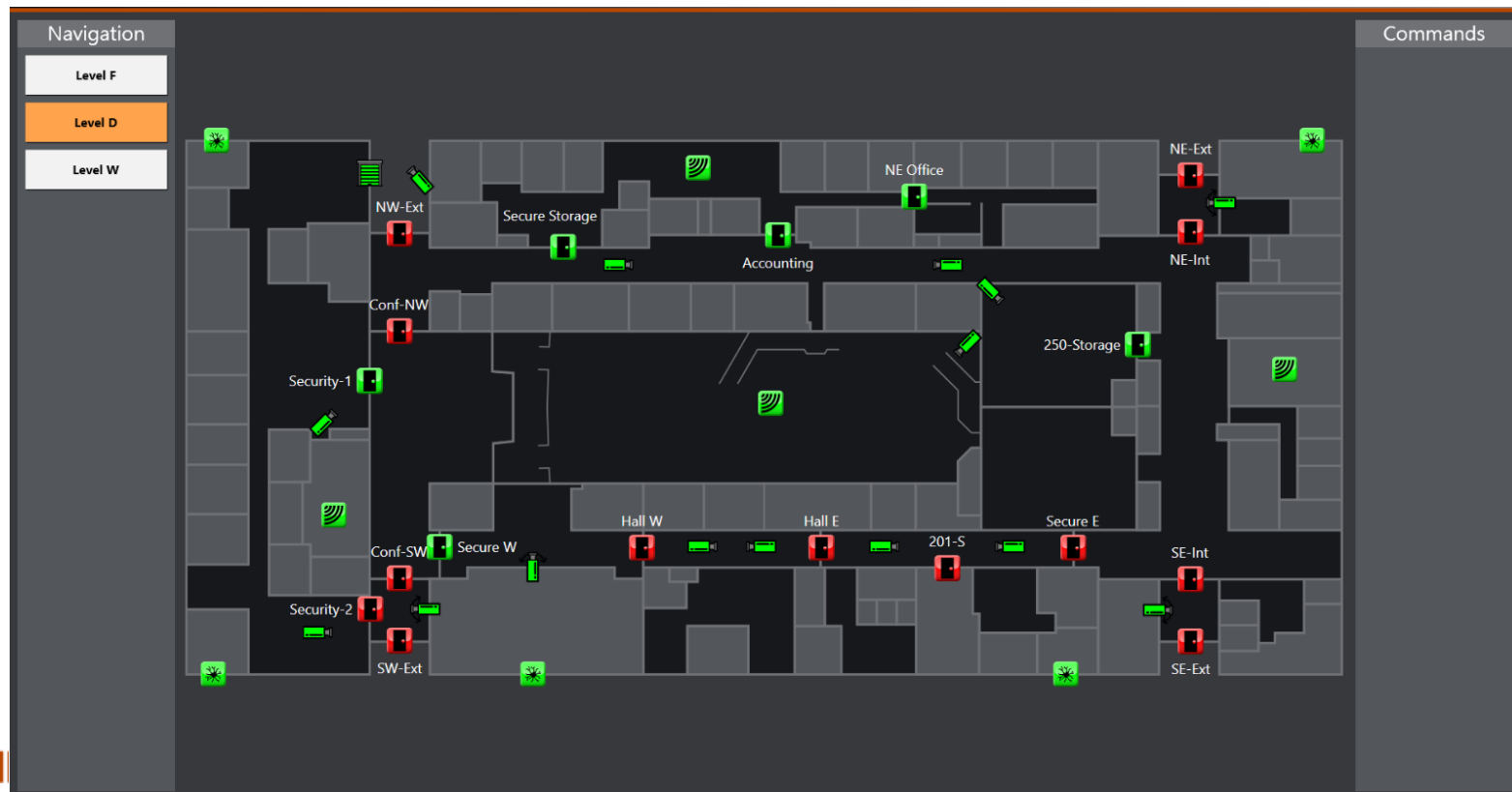
Alarm Grid

Time	Map	State	Priority	Caption	ID	Timestamp	Details
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Message Banner

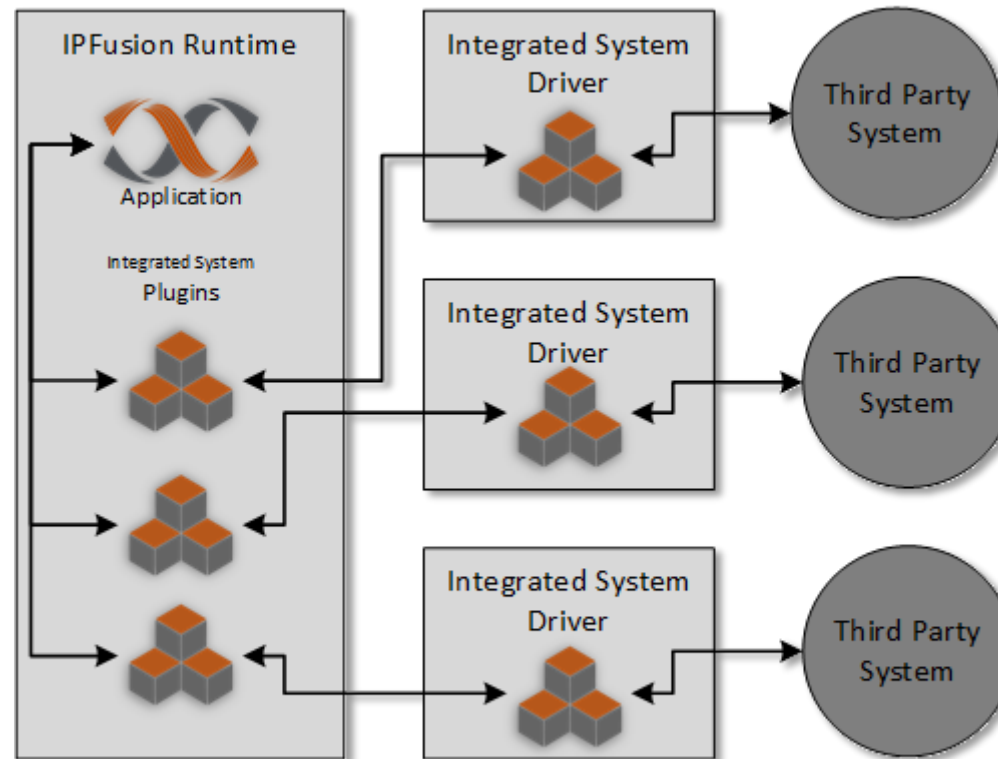
IPFusion Overview – Runtime Application

- Can be run with a graphical interface or as a service
- Runs projects created with Designer
- Connects to third party systems



IPFusion Overview

- Anything to anything
- Plug-in architecture = modular approach



Website and Support

- <http://www.ipfusion.ca>
 - Product Overview
- <http://partner.ipfusion.ca>
 - Documentation, Downloads, Support
- <http://support.ipfusion.ca>
 - Tickets, Forums, Knowledgebase

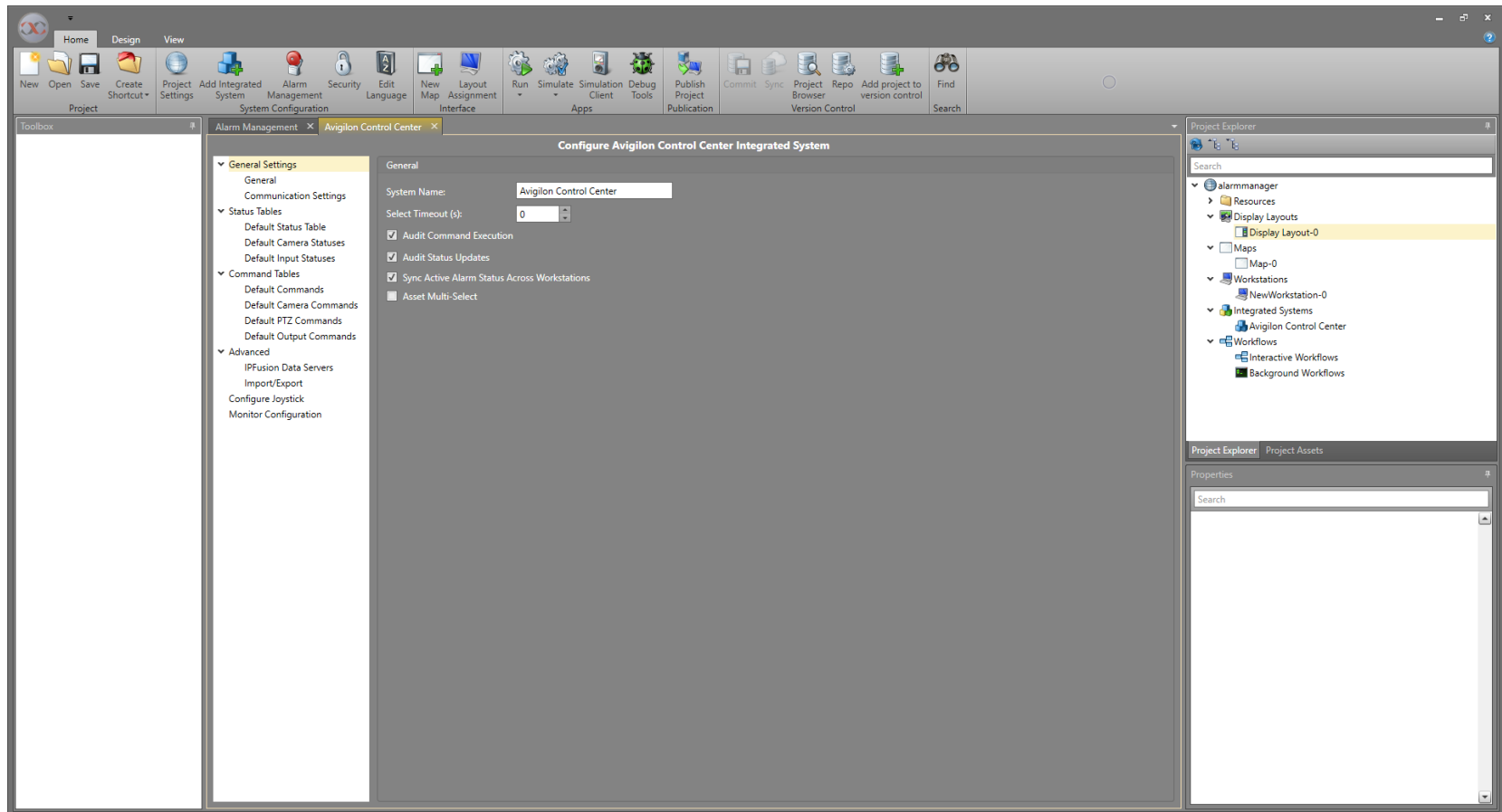


Solution Overview



Solution Overview – Designer Application

- Configures Integrated Systems



Solution Overview – Display Layout

- Defines how Runtime operator's screen appears
- Displays controls and maps
- Customizable



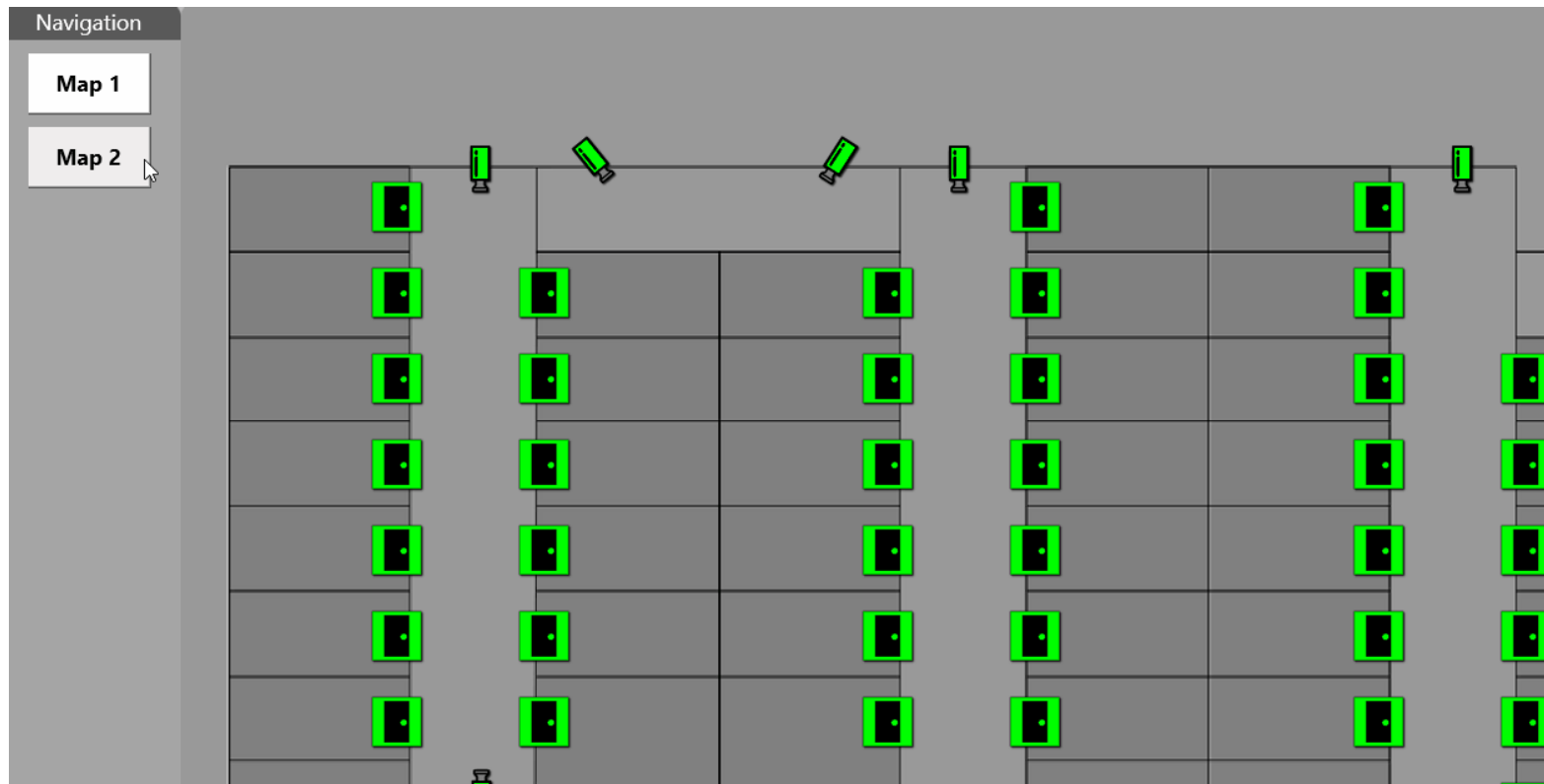
Solution Overview – Maps

- Graphical Map can represent space in the real world or a logical collection of assets
- Displays individual devices as icons



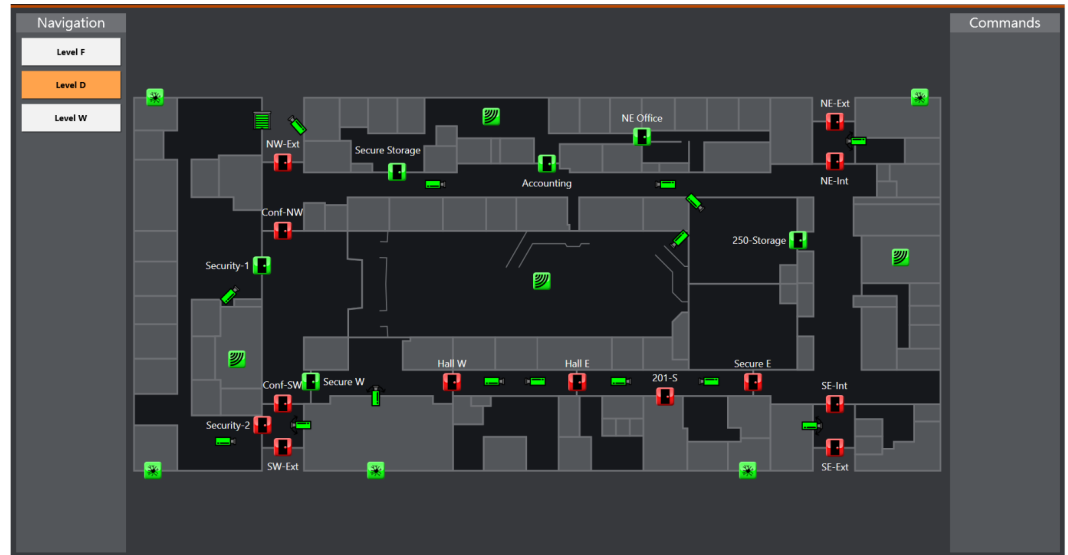
Solution Overview – Navigation

- Allows access to multiple maps



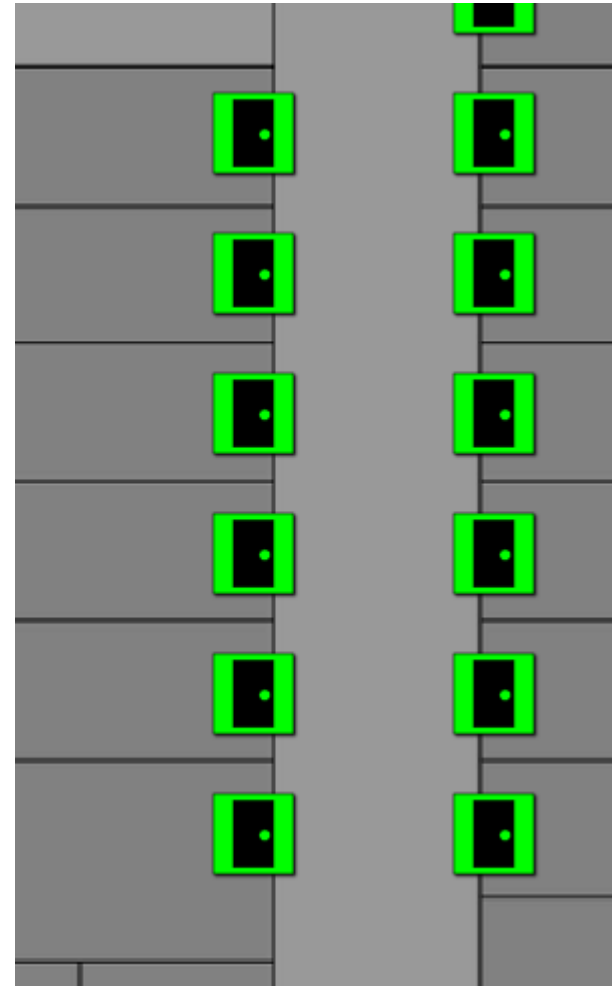
Solution Overview – Integrated Systems

- Multitude of systems and devices
 - Access control
 - Video Surveillance
 - Nurse Call
 - Intrusion detection
 - Lighting
 - SNMP
 - Perimeter intrusion
 - RTLS
 - OPC
 - Intercom



Solution Overview – Assets

- Device, part of a third-party system
 - Camera, intercom station, network switch connection port, card reader, cell door, etc.
- Represented on screen by an interactive icon
- Displays status and have commands issued to them



Solution Overview – Alarming

- Alarm posting by workstation
- Can log alarm types
- Allows custom alarm annunciation
 - Sounds
 - Navigation button color
 - Alarm grid row colors
 - Priority

Alarm Types

Search

Priority	Alarm Type
28	Fault
30	No Communication
2	Fire Zone Alarm
1	Staff Duress
10	RTLS Zone Alarm
13	Intercom Call Waiting
15	Hardware Fault Alarm

Configuration

Alarm Type: Fire Zone Alarm

Sound File: Alarm_3.wav

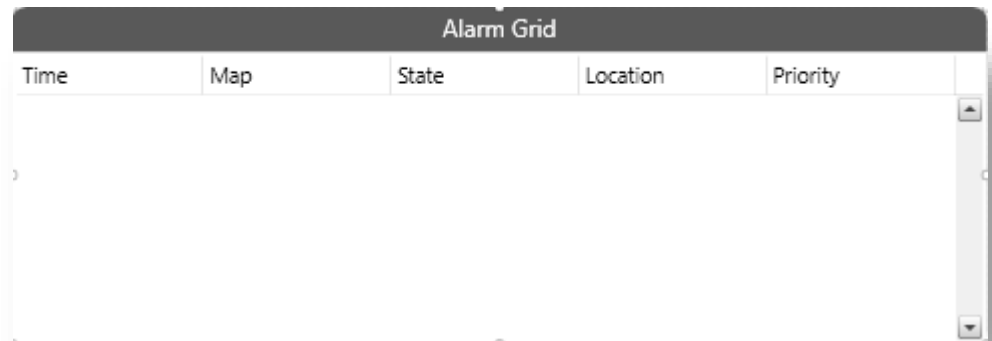
Priority: 2

Color: Background (Red) Text (Black) Sample

Flash Color: (Black) (Red) Sample

Solution Overview – Alarm Grid

- Live display of active alarms
- Central alarm response and management
- Customizable columns

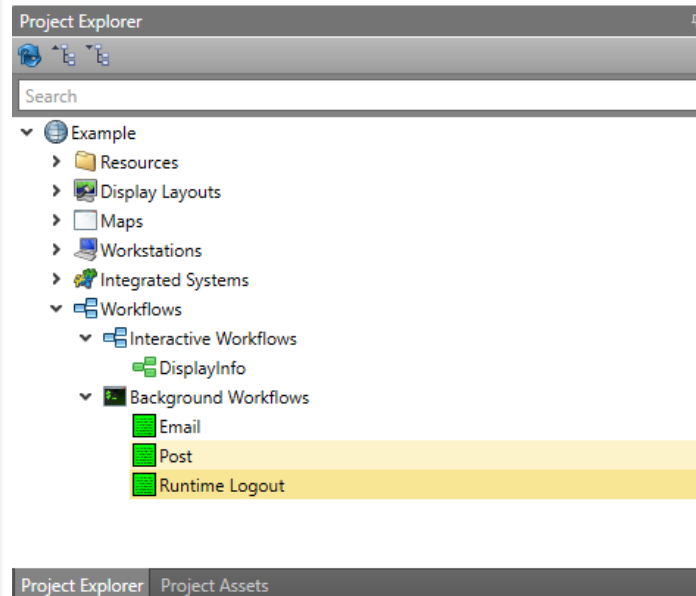
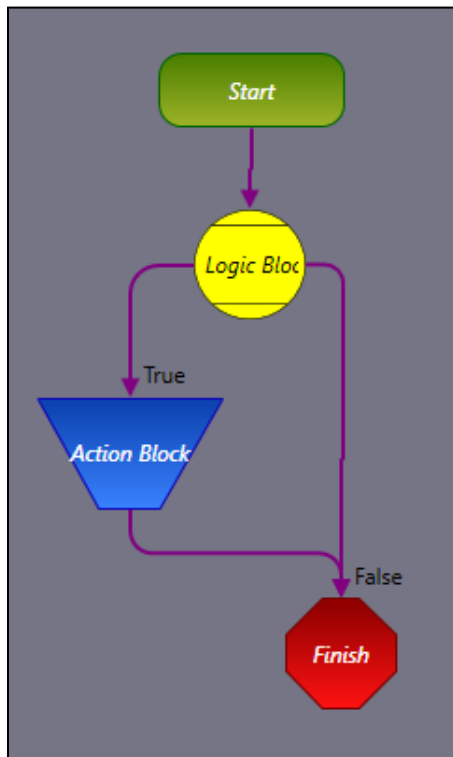


The screenshot shows a software window titled "Alarm Grid". It contains a table with the following columns: Time, Map, State, Location, and Priority. The table is currently empty, and there is a vertical scrollbar on the right side.

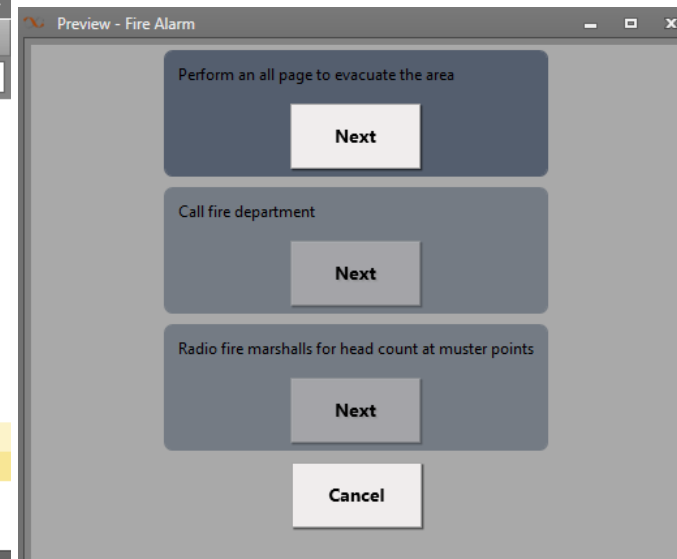
Alarms			
Time	Alarm Type	Alarm State	Description
11-Mar-2022 11:13:13	Detection	Unacknowledged	Admin - Motion - STAIR W Entrance
11-Mar-2022 11:13:29	Door Held Open	Unacknowledged	Movement - Stairwell F
11-Mar-2022 11:13:00	Fault	Unacknowledged	IPFusion Workstation 1

Solution Overview – Workflows

- Interactive workflows for response plans and standard operating procedures
- Background workflows for custom integration between integrated systems and procedures not requiring an operator

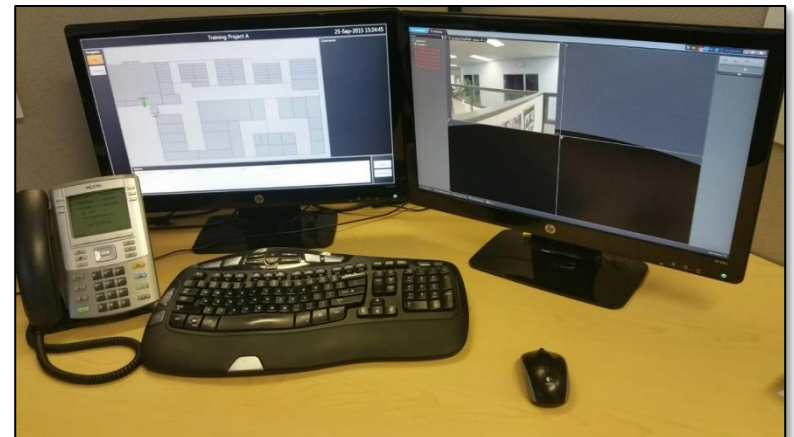


Interactive Workflow Presentation



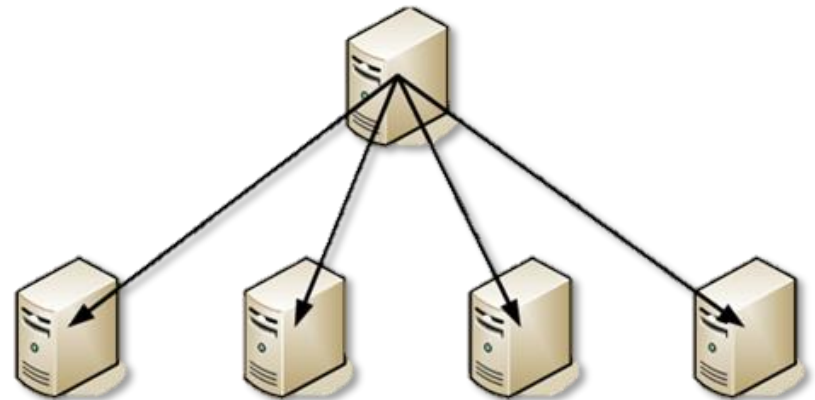
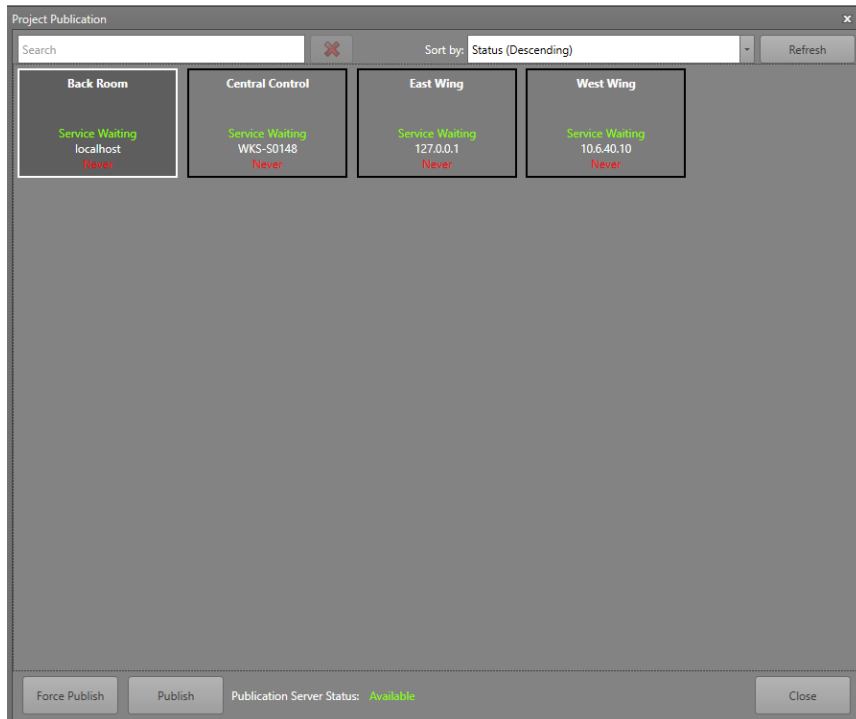
Solution Overview – Workstations

- Represents physical control workstation
 - IPFusion software
 - Where an IPFusion operator interacts with the system
- Requirements
 - Windows 10
 - 8GB memory
 - Intel Core i3-8100 or equivalent processor
 - 1280x1024 screen resolution (1920x1080 recommended)



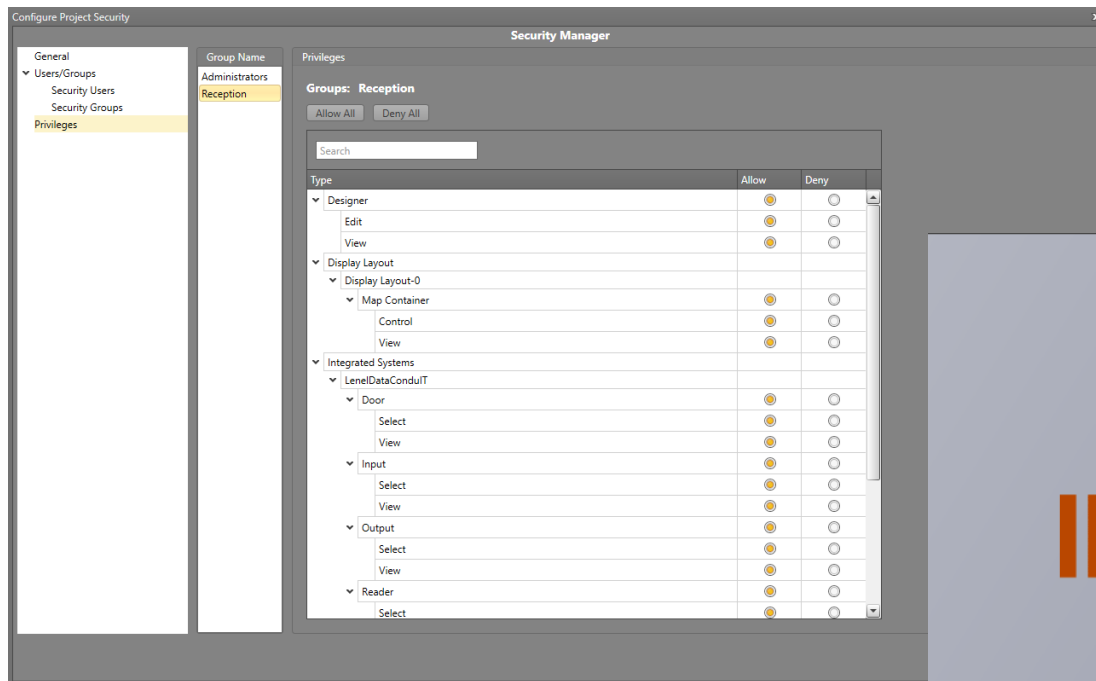
Solution Overview – Publication

- Update Workstations with most recent software configuration
- Unattended updates
- Automatically reloads Runtime
- One or more Workstations



Solution Overview – User Security

- Group-based security
- Active Directory integration



Solution Overview – Version Control

- Track many projects
- Commit and revert changes
- Multiple Users

The screenshot displays a software interface with a tabbed window titled "Version History". The interface is divided into two main sections. The left section contains a list of version entries, with "Version #5" highlighted in yellow. The right section provides a detailed view of the selected version.

Version	Description
Version #5	Roll-back to version #2 performed by jhill on 2016
Version #4	Added Doors and interlock to second screen.
Version #3	Added a second screen to the project. Set to defau
Version #2	Added PLC door integrated system. Added Initial as
Version #1	Project was added to version control by jhill on 2

Version #5	
Author:	jhill
Date:	11/16/2016 4:05:43 PM
Description:	Roll-back to version #2 performed by jhill on 2016-11-16 4:05:43 PM -06:00 from ENGINEERING15

Solution Overview – Embedded Video

- All sources into one viewer
- Any size on template or full screen
- Live and recorded video

North Secure Level 1 East 06 FEB 2015 - 20:45:03

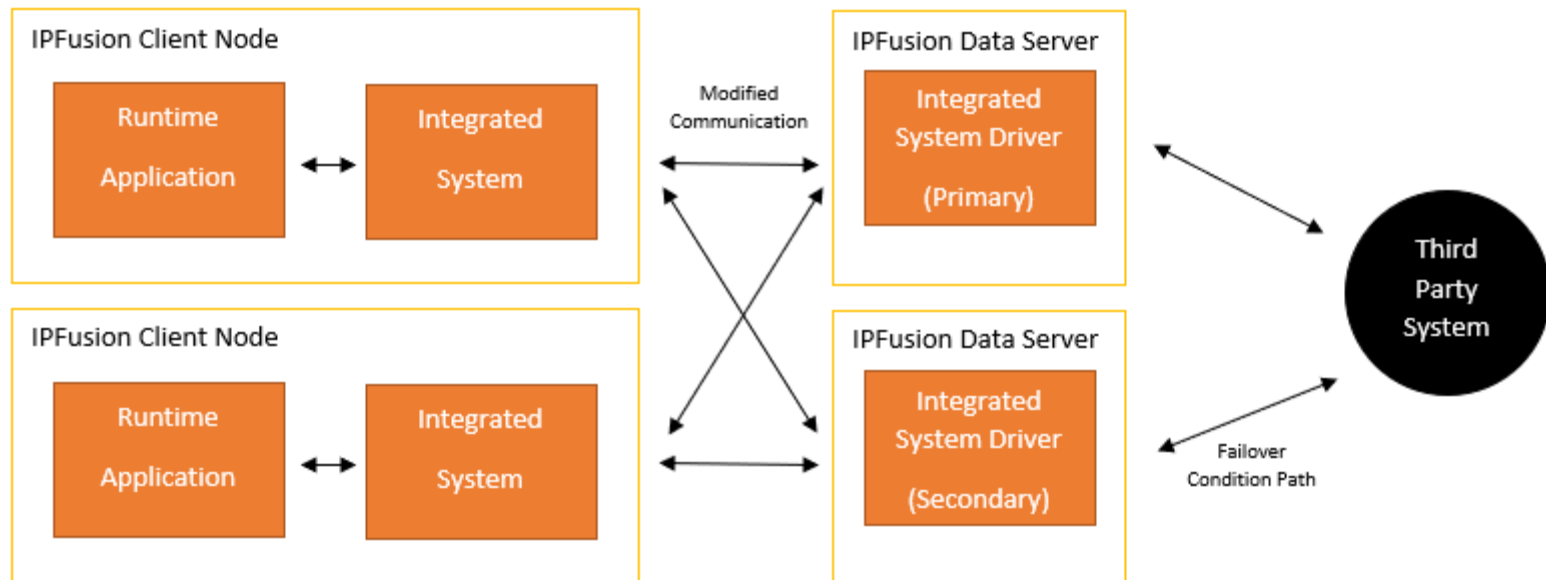
Video Surveillance Control Layout Alarming Banner Customization History

Date and Time	Screen	Type	State	Description
5 FEB 2014 - 13:20:37	Level 1 East	Wander	Unacknowledged	Client John Doe Wander Alarm
5 FEB 2014 - 13:20:37	Level 1 East	Medical	Acknowledged	Barometric Pressure
5 FEB 2014 - 13:20:37	Utilities	Maintenance	Acknowledged	Cart 4 Requires Maintenance
5 FEB 2014 - 13:20:37	Level 1 East	Fault	Acknowledged	Camera 1 Offline

Door 01A - John Doe

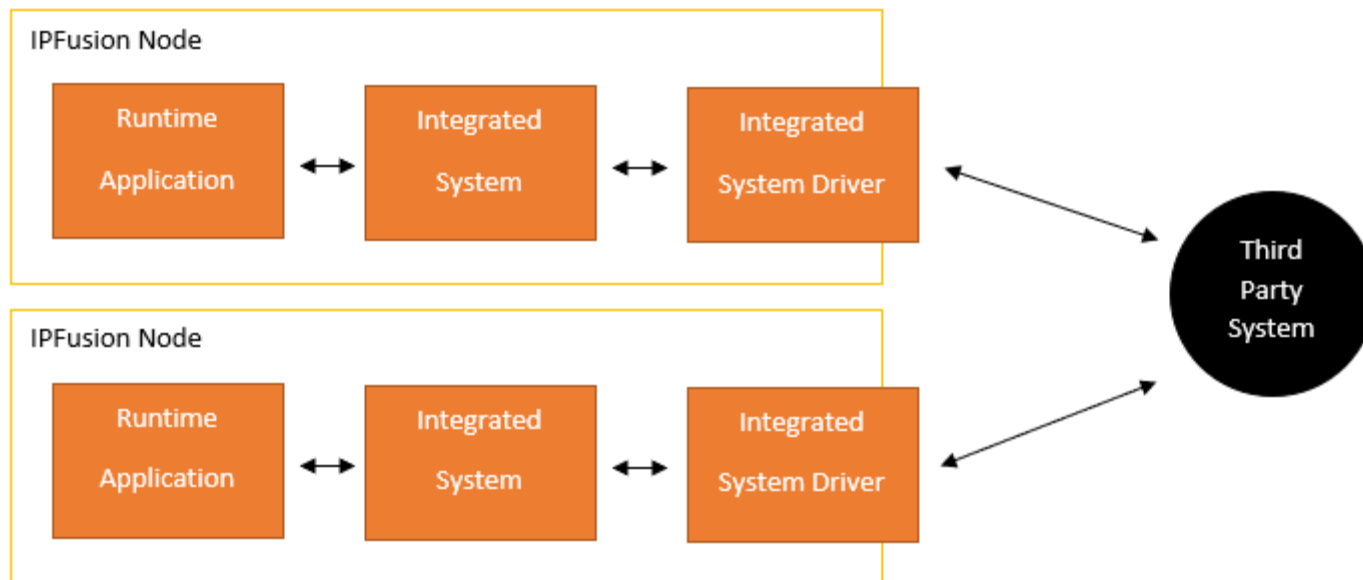
System Topology – Dedicated Redundant IPFusion Data Servers

- Fully redundant
- Enables scalability
- High performance



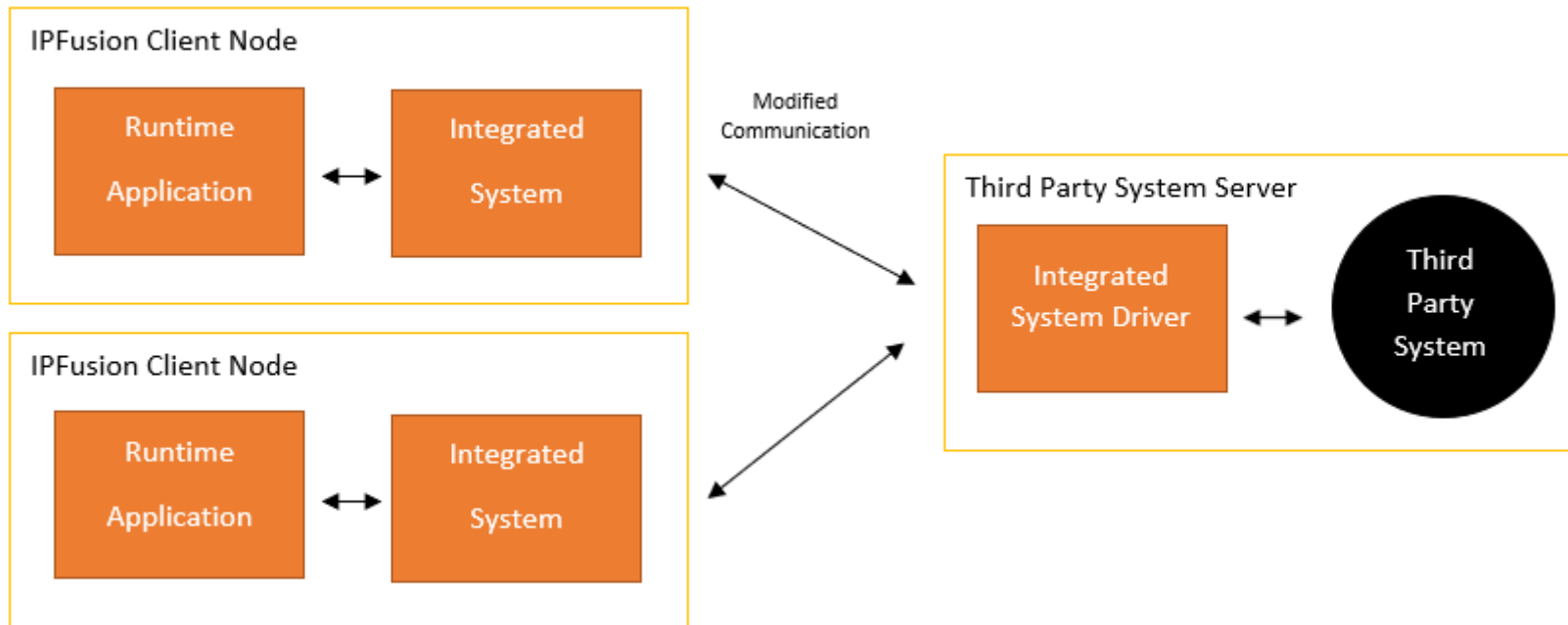
System Topology – Self-Sufficient IPFusion Workstations

- Workstations host their own drivers
- Workstations are self-sufficient



System Topology – Third Party System-Hosted Data Server

- Third party system hosts the driver on same server



Additional Features



Additional Features – API

- RESTful web-based API
- Event stream
- Execute commands and operations remotely
- Get/set properties
- Secure

GET /ipfusion/Assets Gets a collection of all the available asset ids in the IPFusion project

Parameters Try it out

No parameters

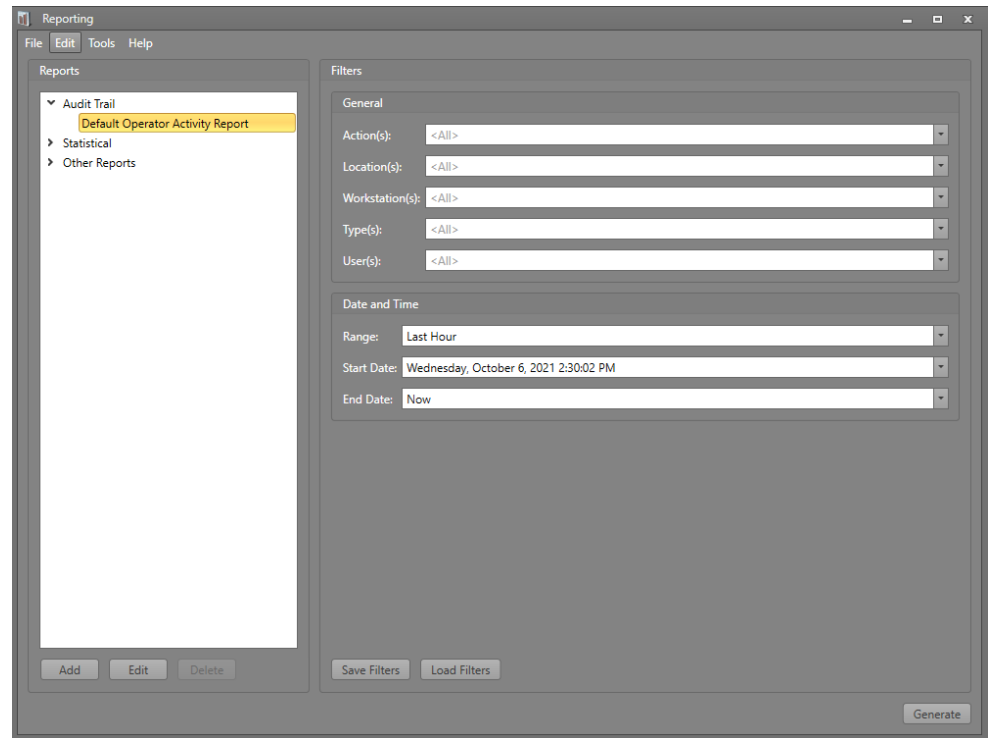
Responses Response content type: application/json

Code	Description
200	<p>The request succeeded and the id list is returned</p> <p>Example Value Model</p> <pre>["string"]</pre>
404	<p>The asset does not exist.</p> <p>Example Value Model</p> <pre>{ "type": "string", "title": "string", "status": 0, "detail": "string", "instance": "string", "additionalProp1": {}, "additionalProp2": {}, "additionalProp3": {} }</pre>



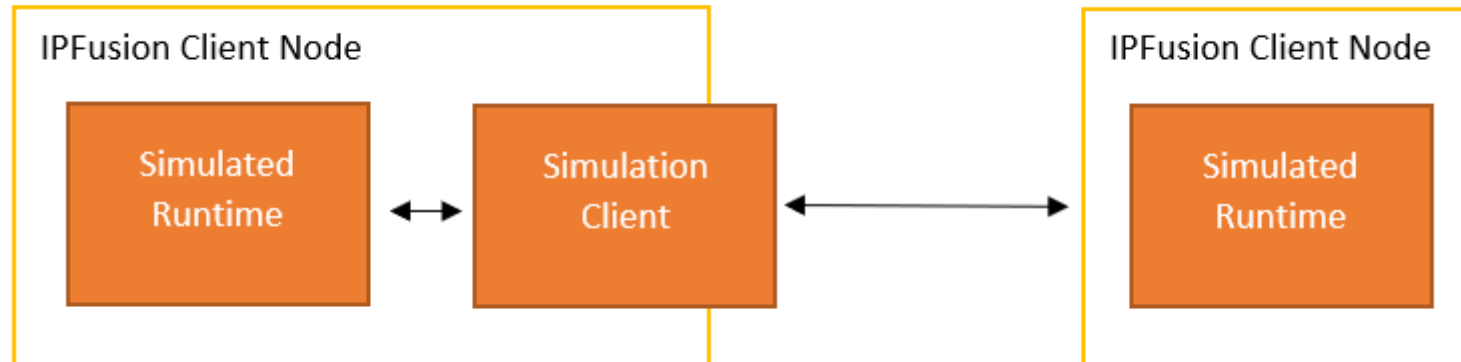
Additional Features – Logging and Reporting

- Activity logging events and user actions
- Statistics
- Custom reports



Additional Features – Simulation App

- Setup Scenarios
- Trigger Alarms and Events
- Training
- Testing
- Network connectivity



Additional Features – Debugging App

- Connect to any IPFusion component
- Auto Network Discovery
- Message capture end to end
- Live Output to Window, Text, SQL Database
- Many data manipulation features



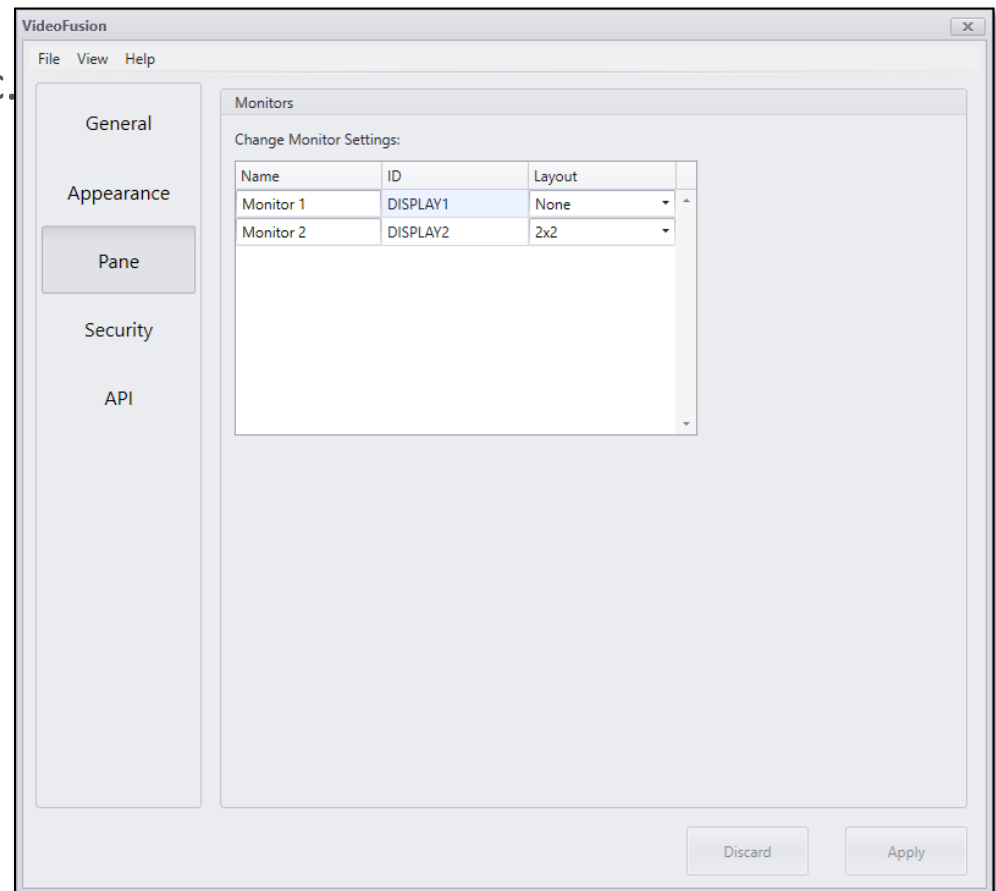
Additional Features – Debugging App

The screenshot shows the 'Debug Tools' application window. The interface includes a menu bar with 'Home', 'View', and 'Help'. Below the menu bar is a toolbar with icons for 'Save', 'Open', 'Export', 'Edit Connections', 'Stop Listening', 'Clear Data', and 'Options'. The main area is titled 'Data' and contains a search bar and a data table. The table has columns for 'Id', 'Event Time', 'User', 'Source Address', 'Computer', 'Source Description', and 'Message'. The data rows show various runtime events, including connection failures and successes, and parameter evaluations. The bottom right corner of the table area displays 'Count=316'.

Id	Event Time	User	Source Address	Computer	Source Description	Message
316	05-27-2021 8:55:22:8806 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Sending command request: AddTextMessage (Genetec Security Center-5.8, 127.0.0.1:9001, Connection Failed, ,). Targ...
315	05-27-2021 8:55:22:8806 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Resulting evaluation of parameter : Value 5 is : ."}
314	05-27-2021 8:55:22:8806 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Evaluating function parameter : Value 5"}
313	05-27-2021 8:55:22:8806 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Resulting evaluation of parameter : Value 4 is : ."}
312	05-27-2021 8:55:22:8806 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Evaluating function parameter : Value 4"}
311	05-27-2021 8:55:22:8806 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Resulting evaluation of parameter : System.TriggeringItem.Initial:Connection State is : Connection Failed."}
310	05-27-2021 8:55:22:8806 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Evaluating function parameter : System.TriggeringItem.Initial:Connection State"}
309	05-27-2021 8:55:22:8806 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Resulting evaluation of parameter : System.TriggeringItem.Initial:Server Address is : 127.0.0.1:9001."}
308	05-27-2021 8:55:22:8806 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Evaluating function parameter : System.TriggeringItem.Initial:Server Address"}
307	05-27-2021 8:55:22:8806 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Resulting evaluation of parameter : System.TriggeringItem.Initial:System Name is : Genetec Security Center-5.8."}
306	05-27-2021 8:55:22:8806 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Evaluating function parameter : System.TriggeringItem.Initial:System Name"}
305	05-27-2021 8:55:22:8806 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Type:"Failover Manager"},{Action:"Connection Failed"},{Username:"Operator"},{Location:"Genetec Security Center-5.8 127.0.0.1:90...
304	05-27-2021 8:55:22:4108 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Sending command request: AddTextMessage (API Service Connector, 127.0.0.1:8081, Connection Succeeded, ,). Targ...
303	05-27-2021 8:55:22:4108 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Resulting evaluation of parameter : Value 5 is : ."}
302	05-27-2021 8:55:22:4108 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Evaluating function parameter : Value 5"}
301	05-27-2021 8:55:22:4108 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Resulting evaluation of parameter : Value 4 is : ."}
300	05-27-2021 8:55:22:4108 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Evaluating function parameter : Value 4"}
299	05-27-2021 8:55:22:4108 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Resulting evaluation of parameter : System.TriggeringItem.Initial:Connection State is : Connection Succeeded."}
298	05-27-2021 8:55:22:4108 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Evaluating function parameter : System.TriggeringItem.Initial:Connection State"}
297	05-27-2021 8:55:22:4108 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Resulting evaluation of parameter : System.TriggeringItem.Initial:Server Address is : 127.0.0.1:8081."}
296	05-27-2021 8:55:22:4108 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Evaluating function parameter : System.TriggeringItem.Initial:Server Address"}
295	05-27-2021 8:55:22:4108 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Resulting evaluation of parameter : System.TriggeringItem.Initial:System Name is : API Service Connector."}
294	05-27-2021 8:55:22:4108 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Evaluating function parameter : System.TriggeringItem.Initial:System Name"}
293	05-27-2021 8:55:22:3952 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Type:"Failover Manager"},{Action:"Connection Succeeded"},{Username:"Operator"},{Location:"API Service Connector 127.0.0.1:808...
292	05-27-2021 8:55:19:2534 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Sending command request: AddTextMessage (Genetec Security Center Omnicast, WKS-S0148:9001, Connection Sucee...
291	05-27-2021 8:55:19:2534 AM	Operator	192.168.31.128:9...	MYCOMPUTER	Runtime	{Message:"Resulting evaluation of parameter : Value 5 is : ."}

Additional Features – VideoFusion

- Video wall display
- Web service API
- Many camera sources
 - ONVIF, Milestone, Genetec, etc.
- Customizable look and feel



Module 1 Complete
