



Emergency Gateway Managed Service Guide

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1. Introduction

This Service Guide describes Intrado's Emergency Gateway ("EGW") Managed services ("Services") which include:

- a. the specific Integration Services described in Section 4 below; and
- b. the specific day-to-day Remote Network Operations Services as identified and described in Section 5 below for each Managed Emergency Gateway appliance ("Managed EGW").

2. Deliverables and Responsibilities

2.1. Deliverables

Intrado will provide the following Deliverables:

- Documented Escalation/Communication Procedures
- Pre-kick-off packet, which includes spreadsheets and data needed throughout the Integration process
- Device legend for those Managed EGWs, which correlates names, locations, SMARTnet ID number, circuit ID, ID, etc.
- Contact information for the Remote Network Operations Center, the Engineer(s) (if applicable) and the Service Delivery Manager
- Web Portal guide to view Monthly Management Reports

2.2. Intrado Responsibilities

Intrado will troubleshoot all fault issues under fault management terms as described in Section 5 below.

Intrado may engage a third party subcontractor to perform all or a portion of Services, and will be responsible for the performance of such subcontractor.

2.3. Customer Responsibilities

Customer is responsible for the following during the Services term or any extension of the Services term:

- a. Customer will authorize Intrado to establish and/or maintain connectivity between Customer's corporate location and Intrado via a Virtual Private Network ("VPN") tunnel established (if applicable). Customer will configure and/or maintain relevant security tools and/or hardware to allow network management traffic to pass between the VPN device and the Managed EGWs to enable the performance of Services (i.e., opening necessary firewall ports).
- b. Customer will configure and/or maintain relevant security tools and/or hardware to allow network management traffic to pass between Intrado and Customer to enable the performance of Services (i.e., opening necessary firewall ports).
- c. Customer personnel will provide material and detailed input during the Integration Services as required. Lack of participation by Customer staff may extend the duration of the integration process or impact Intrado's performance of Services.
- d. Customer authorizes the appropriate use of Intrado jump boxes, co-located in secured redundant facilities, by authorized Intrado personnel. Connections are made via Secure Shell or Remote Desktop Protocol before establishing connectivity into Customer devices (if applicable).
- e. Customer authorizes Intrado to implement and/or maintain authentication on devices utilizing a Customer access control system(s) such as ACS, RADIUS, and/or Active Directory.
 - i. Customer will authorize two accounts for shared access, currently named IMSOPS and IMSENG, and one service account with a name to be determined during the Integration Services period. Accounts will provide Intrado with the necessary administrative level rights to perform Services.
 - ii. Intrado will adhere to any reasonable Customer password change policies for these accounts.

- f. Customer will be responsible for: (a) back-up and/or data migration of existing data unless otherwise agreed to by Intrado; (b) computer system and network designs; and (c) component selection as it relates to the performance of the computer system and/or the network.
- g. Customer will provide such other information and access to the personnel of Customer as Intrado may reasonably request.
- h. Customer will provide all of the following:
 - i. A level-1 help desk to receive end user calls, perform basic end-user troubleshooting, and escalate system-level issues on Managed EGWs to Intrado.
 - ii. Lead-time commitment for planned configuration changes as mutually agreed upon between Intrado and Customer.
 - iii. Documentation, upon request, for hardware not specified in Section 4 below, as required to perform Services.
 - iv. Documented escalation procedures preferred by Customer.
 - v. Environmental and operational conditions that comply with OEM specifications for all Managed EGWs and associated hardware.
 - vi. Reasonable assistance to Intrado throughout problem resolution for Managed EGWs, including onsite, "hands-on" support to perform tasks outside the reasonable control of Intrado's performance of Services. Intrado will provide direction for all "hands-on" support tasks required to perform Services. Examples of "hands-on" support tasks include, but are not limited to:
 - Replacing failed hardware
 - Rebooting of a Managed EGW that cannot be addressed remotely
 - Visually inspecting Managed EGWs
 - Performing initial configuration to give Intrado basic connectivity to the Managed EGW
 - vii. Such other information and access to the personnel and facilities of Customer as Intrado may reasonably request.

3. Limitations

Intrado will not install or provide assistance for any unlicensed software on any Customer device(s).

Any services not covered under this Service Guide may be performed as billable professional services, including the following:

- Remote training
- Ad hoc performance reporting and analysis
- Participation on Customer's behalf in calls or meetings with Customer business partners or service providers
- Network and/or Security review, design, or implementation
- Managed EGW configuration changes, except as required to fix an issue under Fault Management; in such cases, device configuration changes will not incur Engineering Services hours
- Managed EGW installations
- Escalation of vendor support, as required
- Deployment of Customer-approved actions, as needed, to remotely troubleshoot systems
- Assistance with troubleshooting problems that resolve to be application issues, device configuration issues for Managed EGWs that Intrado does not have configuration responsibility, or user error
- VPN configuration changes
- Customer assistance with security event resolution
- Customer required training for compliance, audits, etc.
- Work resulting from a fault issue determined by Intrado to be the result of changes made by Customer
- Any work performed outside of Intrado "Business Hours" (8:00 AM to 6:30 PM Eastern Time, excluding weekends and Intrado holidays) for the following activities are not covered under this Service Guide, but may be performed as billable professional services:
 - Change Management
 - Release Management

- Configuration Management (optional)
- Performance and Capacity Management
- Availability Management

4. Integration Services

4.1. Service Description

Before starting Remote Network Operations Services described in Section 5 below, Intrado will provide Customer with the following integration tasks (“Integration Services”). Integration tasks are subject to Customer’s participation in regularly scheduled integration status meetings and completion of tasks assigned to Customer. Failure of Customer to perform its assigned tasks may result in delays of integration and missed completion timelines.

Table 1: Integration Task Responsibilities

Integration Tasks	Responsibility
Provide welcome letter including Intrado contact information and all VPN configuration requirements	Intrado
Provide all necessary VPN configuration details from Customer’s network (if applicable)	Customer
Provide device inventory (including IP addresses, device names, etc.) and Customer contact information (if applicable)	Customer
Authorize TACACS (e.g., “IMSOPS”, “IMSENG” as defined in Section 2.3 above) and/or Active Directory (e.g., “IMSENG”) accounts for use by Intrado and fallback username and passwords (if applicable)	Customer
Provide a list of authorized employees who can approve MAC and Engineering Services requests	Customer
Configure Intrado management tools with Customer’s site and EGW information (if applicable)	Intrado

4.1.1. Integration Services: Customer Assumptions and Requirements

- a. Customer will make any changes necessary to allow the correct flow of data traffic through Customer’s network for management access. This includes, but is not limited to, opening required management ports, making route changes, and creating network address translations.
- b. Customer will provide Intrado with change windows that will allow the integration to stay on target to meet the agreed-upon completion date.
- c. Customer will allow Intrado to take any steps required to manage the Managed EGWs. This includes, but is not limited to, applying management configurations and installing management agents.

5. Remote Network Operations Services

5.1. Services Description

Intrado will remotely operate and monitor Customer EGWs as further described in Section 5.3 below. Commencement of Remote Network Operations Services is contingent on all Managed EGWs being certified as installed and appropriately configured into Intrado’s management tools.

5.2. Service Levels

Table 2: Intrado Remote Network Operations Services: Service Levels (for all offerings)

Service Level Definition	Priority/Severity	Service Level Goal
Intrado email notification to Customer of network event (the " <u>Initial Notification</u> ")	Priority 1	Within 30 minutes of event discovery
	Priority 2	Within 60 minutes of event discovery
	Priority 3	Within 4 hours of event discovery
	Priority 4	At the next monthly reporting date
Email status updates to Customer throughout problem resolution process (the " <u>Status Update</u> ")	Priority 1	1 hour intervals unless extended by Customer
	Priority 2	2 hour intervals unless extended by Customer
	Priority 3	24 hour intervals unless extended by Customer
	Priority 4	At the next monthly reporting date

5.2.1. Network Event Priority Level Definitions

Priority 1: EGW cannot successfully deliver any 911 calls, performance or usability is causing critical impact to business operations. No immediate workaround is available. Customer is willing to commit substantial resources 24/7 to resolve the situation.

Priority 2: EGW availability/redundancy is limited and backup devices/connections have initiated, partial failure to deliver 911 calls for a site or region, performance, or usability is significantly impacted affecting important aspects of business operations. No immediate workaround is available. Customer is willing to commit full-time resources during normal business hours to resolve the situation.

Priority 3: E911 provisioning is unavailable, call delivery or PSAP information is incorrect, non-critical functionality is impaired with limited impact to business operations. Functional workaround is available. Customer is willing to cooperate and commit limited resources to resolve to the situation.

Priority 4: Customer requires information or assistance on product capabilities, installation, or configuration. There is no service impact to company or operations. This category also includes scheduled maintenance and enhancements.

5.3. Overview of Services

Managed Services are classified into the key areas below.

5.3.1. Incident Management

Incident management activities consist of responding to events with a primary focus of restoring the service. Reported incidents are analyzed to determine if the incident is a symptom of a problem requiring additional investigation. When multiple occurrences of related incidents are observed, a problem record will be created and managed.

Table 3: Activities Included in Incident Management

Activity	Description	Frequency	Reporting
Alarm Monitoring	Review received alarms, triage, and analyze non-critical alarms. Resolve alarms that require action.	Critical alarms monitored continuously. Non-critical alarms reviewed every Business Day.	Support ticket issued for each incident detected. Quarterly report indicating Alarm statistics and trends.
Health & Usage Monitoring	Data collection and analysis to identify abnormalities in the system that may affect availability, capacity, and reliability. Resolve incidents related to health and usage	As Incidents are raised	Support ticket issued for each incident detected. Quarterly report indicating health and usage statistics and trends.
CDR Events	Review CDRs, identify, and investigate cause of unprovisioned calls, abnormal call trends.	Quarterly	Support ticket issued for each incident detected. Quarterly report indicating call statistics and trends.
Third Party integration Monitoring	Analyze errors originating from third party systems through weekly health check. Identify and investigate cause of errors. Intrado is not responsible for escalating to third party vendors.	As Incidents are raised	Support ticket issued for each incident detected. Quarterly report indicating incidents opened/closed and priority.
Network Map Inconsistency Monitoring	Review logs for any inconsistencies in the network map. Collaborate jointly to resolve issue with Customer.	Quarterly	Support ticket issued for each incident detected.
EGW Status on ERS	Check EGW connectivity to the ERS and review data reported by EGW. Resolve outages. Investigate cause of abnormal reports.	As Incidents are raised	Support ticket issued for each incident detected. Quarterly report indicating EGW Incident count and trends.
Helpdesk Incidents	Identify and resolve incidents originating from Customer helpdesk. Intrado will be responsible for systematic issues but not end-user device support.	As Incidents are raised	Support ticket issued for each incident detected. Quarterly report indicating number of helpdesk incidents and trends.
Security Management	Review and audit the EGW systems for any unauthorized access. Verify system status of network ports and services has not been altered.	Quarterly	Support ticket issued for each incident detected. Quarterly report indicating number of helpdesk incidents and trends.
Incident Status	Provide online secure portal to view open and closed incident tickets with search capabilities	24x7x365	Online portal. Custom reports can be provided by request utilizing Engineering Services

5.3.1.1. Customer Responsibilities

Provide internal Customer single point of contact (“SPOC”) or delegate (i.e. helpdesk, named administrator(s), authorized users)

5.3.2. Problem Management

Intrado will monitor incidents and manage problems if multiple related incidents are detected. Problem Management activities are undertaken to identify and solve the root cause of the detected problem.

Table 4: Activities Included in Problem Management

Activity	Description	Frequency	Reporting
Incidents Analysis	Ongoing analysis to identify if an incident is caused by a problem	As required	Support ticket issued for each problem detected. Online secure portal to view open and closed Problem tickets with search capabilities.
Product Configuration Problems	Identify and correct product configuration issues that negatively impact the solution	As required	Support ticket issued for each problem detected. Quarterly report of problems by category.
Third Party Configuration, Hardware, and Software Problems	Identify and provide the necessary information to help Customer provided third party vendors resolve their problems. Intrado will be responsible for systematic issues but not end-user device support.	As required	Support ticket issued for each problem detected. Support ticket opened with third party vendor. Quarterly report of problems by category.
Software Problems	Investigate software problems that negatively impact the solution. Find workarounds and permanent fixes.	As required	Support ticket issued for each problem detected. Quarterly report of problems by category.
Network Problems	Investigate network problems that negatively impact the solution. Find workarounds and permanent fixes.	As required	Support ticket issued for each problem detected. Quarterly report of problems by category.
Problem Status Report	Generate Report that summarizes problem ticket management, highlighting key statistics, trends, and response times by category	Quarterly	Quarterly review of ticket data.

5.3.2.1. Customer Responsibilities

Provide internal Customer SPOC or delegate (i.e. Helpdesk, named administrator(s), authorized users)

5.3.3. Change Management

Change Management processes will be supported to manage changes and Change Request (“CR”) tickets from Customer.

Customer will submit each Change Management request via email and utilizing a template where applicable. Customer received a specific allocation of CRs per month that are included in as part of Services and specified in the Quote or Order. Additional CR tickets can be purchased in the form of professional services hours. The cost for additional ticket is also specified in the Quote or Order.

Table 5: Activities Included in Change Management

Activity	Description	Frequency	Reporting
Network Map Management	Batch upload and review Network Map changes on the EGW. If the batch upload activity is not initially successful, Intrado will provide troubleshooting and guidance to ensure the data provided by Customer is accurate.	Two business days	Support ticket issued for each CR. Errors in the provided data to Intrado will be reported back to Customer for resolution.
Emergency Response Location Management	Validate civic addresses and batch upload and review changes on the EGW. If the batch upload activity is not initially successful, Intrado will provide troubleshooting and guidance to ensure the data provided by Customer is accurate.	Two business days	Support ticket issued for each CR. Errors in the provided data to Intrado will be reported back to Customer for resolution.
Static Endpoint Management	Batch upload and review static endpoint records on the EGW. If the batch upload activity is not initially successful, Intrado will provide troubleshooting and guidance to ensure the data provided by Customer is accurate.	Two business days	Support ticket issued for each CR. Errors in the provided data to Intrado will be reported back to Customer for resolution.
Call Processing Change Management	Update security notification options, call routing parameters, EGW Security desk user management for a particular location.	Two business days	Support ticket issued for each CR. Errors in the provided data to Intrado will be reported back to Customer for resolution.
CR Status Reporting	Generate Report that summarizes change management tickets, highlighting key statistics, trends, and response times by category	Quarterly	Quarterly review of ticket data

5.3.3.1. Customer Responsibilities

- Provide required changes using specific provisioning templates
- Correct and resolve any detected errors in provided data
- Jointly work to automate high volume and/or time sensitive workflows

5.3.3.2. Exclusions

The following are examples of CR activities considered non-standard. Any non-standard CR will be charged professional services at the rates specified in the Quote or Order.

- Configuration CR requiring validation retesting or redesign; for example: provisioning a new IP address to connect to the ERS account, changing the IP address of the EGW, or provisioning additional PBX in the EGW Attendant Console configuration
- Incidents traced back to faulty third party components (firewalls, switches, softswitch, NNI circuits, not managed by Customer for either physical (hardware) or logical (configuration) reasons
- Problems and/or errors related to Customer failure to back up data
- Software or hardware not officially supported, validated or approved as specified in the applicable Intrado product documentation
- Software, which is considered end of life by the manufacturer
- Repair of any Managed EGWs that: (a) has been altered, except by Intrado or an Intrado or Customer designated representative or in accordance with Intrado's or Customer's written

instructions, (b) has not been installed, configured, operated, repaired, or maintained in accordance with Intrado's or Customer's instructions, (c) has been subjected to abnormal physical or electrical stress, misuse, negligence or accident, including damage to hardware components from spills, drops, power surge, or improper voltage selection on system's power supply, (d) has been operated outside of the environmental specifications for the product, or (e) when such malfunction, damage or other problem is caused by use with software or hardware that is not recommended by Customer or that does not conform to the system requirements or specifications made available by Customer

5.3.4. Release Management

Intrado will be responsible to release and install new software versions of the EGW software.

Table 6: Intrado Responsibilities

Activity	Description	Frequency	Reporting
Publish release notes	Provide Customer with release notes	For each release	Release Note document
Upgrade planning	Determine if release is applicable. Work with Customer and related third parties to plan and schedule the upgrade. Coordinate testing with PSAP if necessary. Initiate an activity and provide instructions to Customer and third parties to modify configuration on external applications and network elements when required.	For each release	If upgrade is planned, Support ticket issued for the upgrade activity.
Upgrade (pre-production systems)	Provide test plan and new documentation. Perform sanity checks and jointly (with Customer or delegate) execute tests prior to upgrade. Work with Customer and related third parties to correct problems prior to upgrade. Team provides a go/no-go decision prior to upgrade. Upgrade Products. If Product is a workstation component, upgrade package is provided to Customer for limited distribution. Jointly execute tests after upgrade. Resolve problems. Rollback if necessary.	For each upgrade if pre-production system is available	Test report and sanity checklist. Support ticket issued for each problem detected. If upgrade fails, issue RCA.

Activity	Description	Frequency	Reporting
Upgrade (production systems)	<p>Provide test plan and new documentation.</p> <p>Perform sanity checks and jointly (with Customer or delegate) execute tests prior to upgrade.</p> <p>Work with Customer and related third parties to correct problems prior to upgrade.</p> <p>Team provides a go/no-go decision prior to upgrade.</p> <p>Upgrade Products. If Product is a workstation component, upgrade package is provided to Customer for distribution.</p> <p>Jointly execute tests after upgrade. Resolve problems. Rollback if necessary.</p>	For each upgrade	Test report and sanity checklist. Support ticket issued for each problem detected. If upgrade fails, issue RCA.

5.3.4.1. Customer Responsibilities

Table 7: Customer Responsibilities

Activity	Description	Frequency	Inputs from Intrado
Participate and approve the release plan	Customer must approve the schedule, resource allocation, test plan, and process for the upgrades.	For each release	Release notes, Test plan, Upgrade procedure
Coordinate with third parties	If third parties need to be involved in some way, Customer must notify each party and project manage the team to ensure the success of the project.	For each release	Release notes, Test plan, Upgrade procedure
Perform on premise tests	Customer is responsible for performing on premise tests as specified by the test plan	For each release and environment (pre-prod and production).	Test plan
Distribute workstation software	Customer is responsible for distributing upgrades to workstation software to the appropriate Customers.	For each release	New software package, Installation Instructions and release notes
Acceptance	Customer is responsible for accepting the upgrade by signing off on the post-upgrade test results.	For each upgrade	Test report and acceptance checklist

5.3.5. Configuration Management (Additional Fees Apply)

If Customer purchases Configuration Management services, Intrado will maintain configuration management to ensure that the state of the system configuration is consistent and does not negatively affect the Managed EGWs.

Requests for Configuration Management will be directed to Customer to perform each request. Intrado will utilize professional services hours if Customer chooses to have Intrado perform the Configuration

Management request. Customer will submit each Change Management request via email and utilizing a template where applicable.

Table 8: Activities Included in Configuration Management

Activity	Description	Frequency	Reporting
Configuration Identification	All configuration elements and interdependencies will be evaluated and documented in the system documentation provided by Customer	At service start and as requested by Customer	Yearly documentation review
Configuration Control	Validate and review CR to ensure they do not negatively affect the system and achieve the desired result.	As requested by Customer	Feedback in the CR
Configuration Status Accounting	Configuration changes are recorded in their initial state and changes are made over time.	As requested by Customer	Yearly documentation review. CR will indicate documentation updated.
EGW System Documentation Review	Customer personnel will review the System documentation for accuracy and ensure all CRs requiring system documentation have been documented.	As requested by Customer	System documentation will be provided annually to Customer.
PBX Change Management	Update EGW configuration to support new and updated PBX parameters	As requested by Customer	Support ticket issued for each CR.
Network Change Management	Update the EGW configuration to support any network CRs	As requested by Customer	Support ticket issued for each CR.

5.3.5.1. Customer Responsibilities

- Provide and maintain overall system architecture design documentation
- Provide Intrado with network documentation of Customer network indicating all inter-connected nodes
- Provide Intrado with configuration documentation of PBX environment
- Provide Intrado with updated information as the environment changes

5.3.6. Performance and Capacity Management

Intrado will continuously monitor the performance and capacity of the Managed EGWs, to the extent that the Managed EGWs can provide such data electronically to Intrado's monitoring tools. The capacity of the system will be evaluated by Customer to ensure it can accommodate Customer's current requirements. As capacity or performance issues are identified, they are managed according to the Problem and Incident Management functions described above. Intrado will provide Customer with recommendations and system designs to meet Customer's capacity requirements.

Table 9: Activities in Performance and Capacity Management

Activity	Description	Frequency	Reporting
Performance Alarming	If a performance alarm is raised it will be handled according to incident and problem resolution.	As required, triggered by an alarm	Tickets will be opened by Intrado.

Activity	Description	Frequency	Reporting
Establish performance metrics and thresholds	Performance metrics will be established and documented for components of the system and used to establish the accepted baseline and alarming thresholds	At service start and reviewed yearly. May also be triggered by a CR that may be performance impacting	Annual Performance Report or CR
Capacity monitoring	The number of endpoints, locations, network elements, transactions on the system will be monitored to provide visibility into the current capacity and planned future growth	Annually	Annual Performance report

5.3.6.1. Customer Requirements

- Provide Intrado projected forecasts for ongoing projects that impact the EGW.
- Provide Intrado with virtual machine performance data

5.3.7. Availability Management

Table 10: Activities Included in Availability Management

Activity	Description	Frequency	Reporting
Maintain System Availability for Change Requests	Change Requests requested by Customer will be reviewed by Intrado to ensure such change does not negatively impact the availability of the Managed EGWs.	As required, triggered by a CR	Documented in CR
System Recovery	In the event of a system outage, restore EGW functionality. Intrado will escalate to Customer for resolution of complete system outages. Customer will engage hardware providers as applicable.	As required, triggered by an Incident or Problem	Incident ticket raised for any failure. Reason for outage will be provided for all system outages.
Change Control & Testing	Perform system ATP for specific configuration changes and upgrades	As required, triggered by a CR	Completed ATP requiring sign-off
System Availability Health Checks	Manual checks to ensure system is functioning correctly and emergency calls are being processed	Quarterly	Support ticket issued for each incident detected. Quarterly report indicating Call statistics and trends.
System Backup	Help configure automated system configuration backup (Dataset to reside at Customer). Monitor that backups are successful.	Ongoing	Support ticket issued for each incident detected.
System Restore (non-production environment)	Verify backup restore process	Annually	CR ticket issued for activity.

5.3.7.1. Customer Responsibilities

- Communicate any outages impacting the EGW appliances (electrical, system fault)
- Ensure system backups are stored in a safe location and readily available