

Rapid Telecommunications Assessment Team (RTAT)



**Roddenberry Disaster Response Team
Operations Handbook**

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Introduction

In mid-November 2013, roughly ten days after Super Typhoon Haiyan devastated the Central Philippines, [The Roddenberry Foundation](#) funded the deployment of a **Disaster Response Team (DRT)** for a 10 day targeted mission to identify gaps in addressing the needs of victims and to provide guidance in the use of new technologies and processes for disaster relief. In addition, the team was tasked with establishing a place for such new capabilities in the design of future response plans.

The success of that mission prompted The Roddenberry Foundation to support a one year pilot project in early 2014, creating The Roddenberry Disaster Response Team to provide the following integrated services:

- **Water Distribution:** Water sourced from within the disaster zone and purified on site to provide clean water for drinking, cooking and medical care.
- **Rapid Telecommunications Damage Assessment:** The deployment of teams trained in the evaluation and reporting of damage to communications infrastructure.

The Foundation's implementing partner, Seattle-based [Infinitum Humanitarian Systems \(IHS\)](#), has extensive experience working in war-torn, post-conflict areas and low-resource communities in Latin America, Africa and Asia. IHS will work closely with [InSTEDD](#), a [TED Prize NGO](#) that develops open source technology tools to serve vulnerable populations.

This handbook is designed to serve as a reference for every member of The Roddenberry DRT. Each of us brings particular areas of expertise to the effort, but it is our combined range of skills—spanning everything from internal water, power and communications tools to deployment preparedness, financial accounting and radio protocols—that will serve as our common foundation.

This handbook is a living document. The content is dynamic and references will be updated and added as needed.

[Eric Rasmussen](#) MD, MDM, FACP

Overview

Information and Communications Technology (ICT)

Infrastructure plays a pivotal role in humanitarian response: It is how information is shared. Yet most countries and organizations still do not consider ICT to be a critical infrastructure in the context of international disaster preparedness plans and frameworks. As a result, little priority is given to the registration, mapping and resilience of ICT resources in areas of risk before a disaster. Compounding the problem, inadequate attention is paid to the rapid restoration of vitally important ICT systems and networks in the wake of a disaster.

So far, there has been little effort toward a coordinated approach to developing an accessible and meaningful registry of ICT infrastructure. Current assessment methods are incomplete and often fractured between public and private entities that prior to a crisis have little incentive to cooperate. No single agency has the charter or the resources to perform a comprehensive ICT assessment (voice, data, cell, broadcast radio, television) either pre or post-disaster.

Experienced response agencies routinely encounter communications problems directly linked to knowledge gaps involving the state of the ICT infrastructure. Even when there is good information, it is often not effectively shared between governmental agencies, private sector providers and humanitarian organizations. As a result, response times suffer and the lives of victims are put at additional risk.

Acronym

APAN: [All Partner Area Networks](#)

DRT: Disaster Response Team

EMOPS: [Emergency Operations](#) at the Pacific Disaster Center (password required)

HFN: Hastily Formed Networks

ICT: Information and Communications Technology

NPS: [US Naval Postgraduate School](#)

PACOM: [US Pacific Command](#)

PDC: [Pacific Disaster Center](#)

RTAT: Rapid Telecommunications Assessment Team

SME: Subject Matter Expert

Concept

A **Rapid Telecommunications Assessment Team (RTAT)** is a consortium of public and private agencies working as a team to assess post-disaster ICT infrastructure to improve information collection and dissemination in support of humanitarian response. An RTAT is deployed to a disaster zone within a week to 10 days of the event, following the initial disaster assessment teams, emergency medical teams and water and shelter providers.

An RTAT provides the following capabilities:

- **Rapid Deployment:** Sets up logistics staging centers on the periphery of the zone(s) with the most severe damage.
- **Comprehensive Overview:** Developed in collaboration with the host nation to compare pre-event ICT capabilities and post-disaster losses.
- **Prioritization:** Develops strategic list of ICT needs.
- **Coordination:** Facilitates inter-agency cooperation and expedite engagement between host country humanitarian response leads and public and private NGO ICT service providers.

Description

An RTAT is a small, nimble, multi-organizational, multi-national integrated team of ICT specialists experienced in wireless data communications, voice communications, radio technologies, power, information sharing and social networking. **The Roddenberry Disaster Response Team (DRT)** deployment to the Philippines in the aftermath of Typhoon Haiyan demonstrated the resource-multiplier effect of coordinating efforts with trained indigenous teams and Subject Matter Experts (SMEs) from within other organizations.

RTAT assessments consist of a series of questions designed to track the status of power and critical ICT infrastructure, which are combined with photographs and GPS metadata to cover the following topics:

- **Electricity**: availability
- **Landline and Fiber (voice and data)**: availability, type, ownership and status
- **Cell Service**: availability, type, ownership and status
- **Satellite**: availability, ownership, cost and coverage
- **Wi-Fi**: availability, ownership, cost, access and coverage
- **Broadcast**: frequencies, range, power source, management and content
- **Radio (HF/VHF/UHF)**: frequencies, range, power source, net control and content

Logistics

RTAT assessments require an Android-only app that was developed by the US Naval Postgraduate School (NPS). The app can be downloaded to a Android phone or tablet via the web, or the application can be obtained from NPS directly via email/FTP or other means.

• **RTAT app link**
<http://lhproject.info/install-odk/>

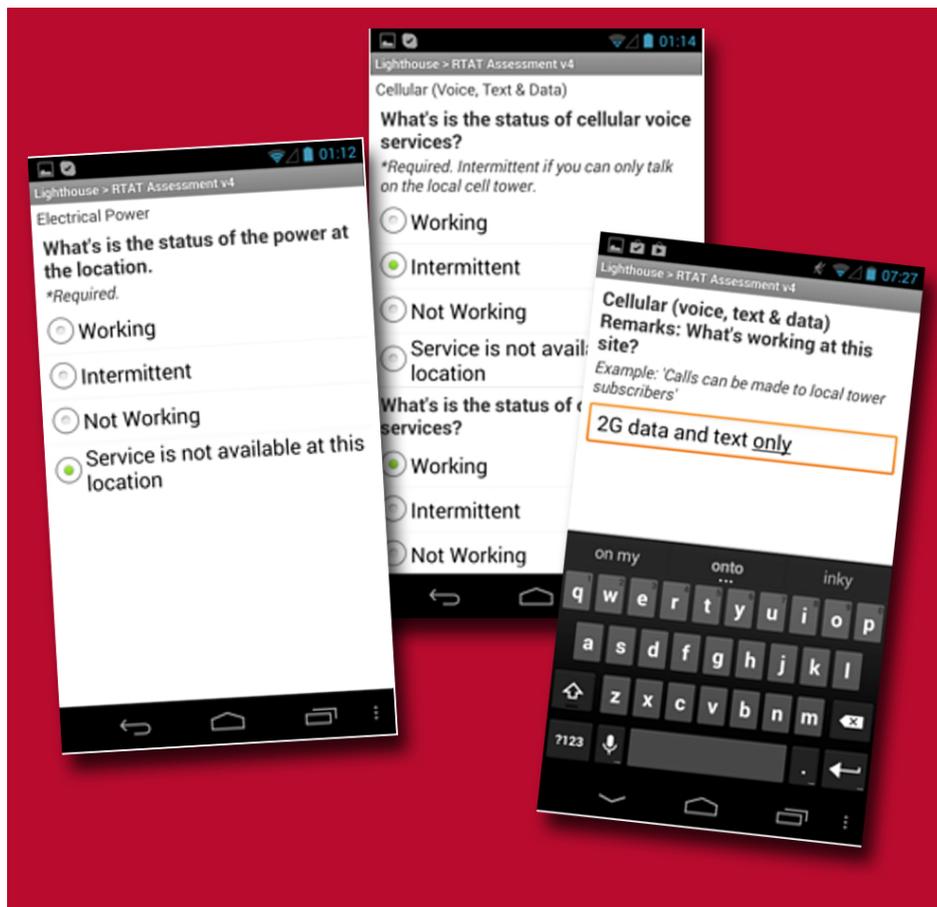
The **Mission Brief** includes a description of the disaster area, pre-existing ICT infrastructure (cell, data, broadcast radio, television, repeaters, generators, fuel supplies, and antenna types). Team Leaders delegate tasks for the day, establish areas of operations, describe water, food, and shelter requirements, ensure the medical forms and points of contact are established, and answer any last-minute questions.

RTAT assessments are completed in the field. When internet connectivity is available, data are automatically transferred to NPS for distribution (“Send Immediately on Collection”). When internet connectivity is not available, data are stored for automatic transmission once connectivity is re-established.

RTAT data are then manually exported by NPS and transferred to the Pacific Disaster Center (PCN) for presentation on the Emergency Operations (EMOPS) site. NetHope and other responder organizations with access to EMOPS will then have access to the RTAT assessment data. All Partner Area Networks (APAN) integration through US Pacific Command (PACOM) is in development.

UX

The RTAT app has a standard progression for all assessment types (see sample screenshots). Forms are designed to be understood even by those not fully familiar with English, while providing meaningful information at any level of submission. Based on feedback from the RTAT deployment to the Philippines, the NPS Hastily Formed Networks (HFN) team and the RTAT SME's are working to improve phone and tablet forms.



Training

The RTAT software is designed to be easy to use by non-native speakers of English, but volunteers are expected to have a fairly sophisticated technical understanding of communications equipment. Training requires about 4 hours and includes:

- **Orientation**
- **Software installation overview**
- **Sample forms completion**
- **Field test (2 hours)**
- **Feedback session**
- **Training evaluation**