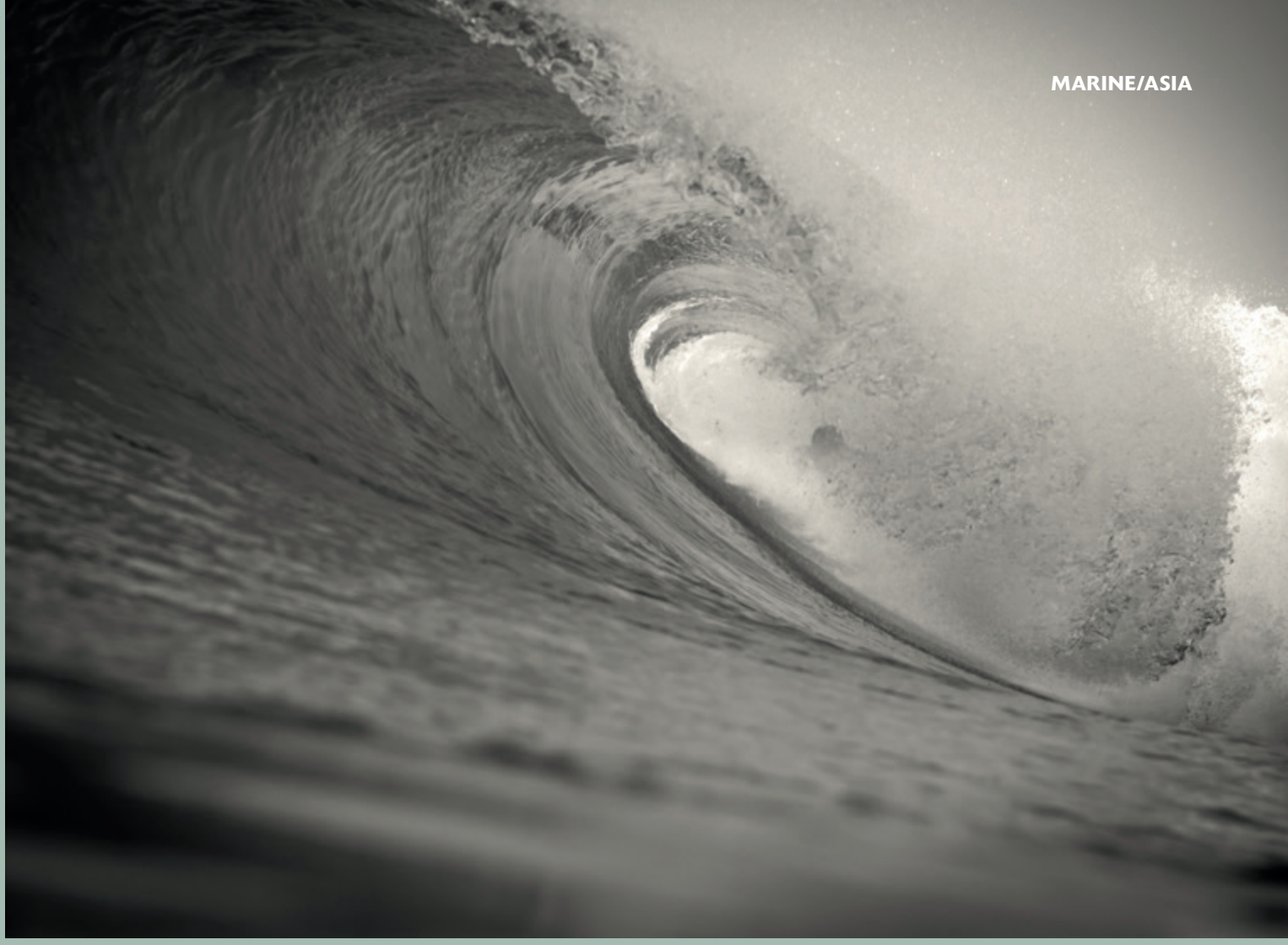

BREAKING NEWS

THE TSUNAMI OF 2004 WAS ONE OF THE BIGGEST NATURAL DISASTERS EVER RECORDED, KILLING HUNDREDS OF THOUSANDS OF PEOPLE IN ASIA. SOPHIA SALENIUS REPORTS ON A NEW SERVICE INTENDED TO SEND SMS WARNINGS TO PEOPLE IN AFFECTED AREAS AND SAVE LIVES IF THE WORST EVER HAPPENS AGAIN

Until December 2004, few people in India were aware of tsunami and their devastating capacity to wash out coastal areas. But when the great Sumatra earthquake struck in that month, it generated a tsunami that exposed the vulnerability of the Indian coastline and caused unprecedented loss of life and damage to property in the countries bordering the Indian Ocean. Considered one of the deadliest natural hazards in history, it killed more than 230,000 people in 14 countries, with 10,749 lives lost in India according to official estimates.

In response to this disaster, the Indian Ministry of Earth Sciences (MoES) decided to establish the Indian Tsunami Early Warning System (ITEWS) with INCOIS, NIOT, ICMAM, IMD, SOI and NRSC as the major participating institutions. ITEWS comprises a real-time network of seismic stations, bottom pressure recorders and tide gauges, as well as the National Tsunami Early Warning Centre (NTEWS), which is operational 24/7, detects tsunami-genic earthquakes and monitors tsunami.

The centre has been operational since October 2007, issuing accurate, timely tsunami advisories to vulnerable communities for all undersea earthquakes with a magnitude of 6.5 or higher. Advisories include accurate and rapid information on the size, scale and expected time of the disaster, as well as advice on how best to secure safety. With back-end support that uses a pre-run model scenario database and decision-support system, NTEWS is capable of issuing tsunami bulletins less than 10 minutes after any major earthquake in the Indian Ocean, thus providing a response/lead time of about 10-20 minutes for near-source regions, a few hours in the case of far-source regions.

A new approach

NTEWS disseminates tsunami bulletins through multiple media simultaneously, including fax, email and phone. Earthquake information, tsunami bulletins as well as real-time sea level observations are also made available on a dedicated website for officials, public and media.

But a new service means citizens can register on the website to receive earthquake alerts and tsunami bulletins through SMS. This service has been developed by RegPoint to send SMS messages immediately to all mobile phones in a designated locality, pinpointing precise warnings, guidance or other information to a specific geographical region before a disaster strikes.

The RegPoint application DMS_PI (Disaster Management System_ Platform Integration) acts as a middle layer between the government

firm that provides the source data and the SMS gateway that delivers the messages to the end-users/subscribers. It has two modules:

1. Subscription: Here, end-users subscribe to the service through the INCOIS Tsunami website using their mobile number and other basic information. During sign-up, they can specify a maximum five locations for which they need the tsunami alerts to be sent. This information is sent to the RegPoint application and used to send messages to the subscribers.

2. Bulletin: This sends the appropriate messages to the subscribers. Whenever the RegPoint application receives an advisory from INCOIS, it creates the criteria to send different messages to end users, based on various aspects such as magnitude, subscribed location and threat category. It then filters the users based on different criteria created for each event and sends the appropriate messages to the resulting subscribers.

In other words, it can decide which messages need to be sent to which subscribers, based on the locations for which they opted when subscribing. It can also send all the data updates at a particular instance in a single request, reducing the number of requests that will be sent to the SMS gateway.

WEB SERVICES IN ACTION

Developed using Java, Spring, RESTful Web services and other technologies, security is implemented through the Authorization feature of the web services, which asks for a username and password to access the services.

RESTful web services are used as they are lightweight and well suited for basic integration scenarios. They follow standard HTTP protocol and HTTP methods for communication between any two systems/applications. This communication happens between client and server through URIs (Uniform Resource Identifiers) i.e., an end-point URL to identify each resource (service).

The Indian National Tsunami Early Warning Centre (NTEWS) is operational 24/7 and detects tsunami-genic earthquakes and monitors tsunami

"RegPoint's tsunami warning solution product is a really great innovation, which can be of significant use in the most disaster prone countries of world," the dean and professor of the Aegis School of Business, New Delhi, Dr Abhijit Gangopadhyay said when presenting the international Graham Bell prize for mobile health to RegPoint.

The future scope of this RegPoint application includes support for other Indian Ocean rim countries, multi-lingual functionality and geo-location based alerts. But resilience to disasters and the security of citizens can be enhanced, only if governments team with mobile network providers and capitalise on this technology.

REGPOINT'S TSUNAMI WARNING SOLUTION PRODUCT IS A REALLY GREAT INNOVATION, WHICH CAN BE OF SIGNIFICANT USE IN THE MOST DISASTER PRONE COUNTRIES OF THE WORLD

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