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Geodetic Institute

# Statement of Work

*RTIS GUI*



Kartverk

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## 1 REVISION HISTORY

<b>NORWEGIAN MAPPING AUTHORITY</b> <b>Geodetic Institute</b> <b>Geodetisk driftsentral [GD]</b>		
<i>REVISION HISTORY</i>		
0.1	First draft	28.04.15
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	Sign:	

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## **3 ABOUT THIS DOCUMENT**

### **3.1 PURPOSE**

The purpose of this document is to specify the requirements for a graphical user interface for RTIS.

### **3.2 DEFINITIONS, ACRONYMS AND ABBREVIATIONS**

### **3.3 REFERENCE**

## **4 ABSTRACT**

The graphical user interface shall run on a local server at NMA premises in Hønefoss. It shall be able to connect to the various RTIS installations. Currently there are 11 such installations. Each RTIS installation consists of a Linux PC running the RTIS SW.

The RTIS GUI shall be able to:

- Start/Stop the RTIS SW
- Configure the RTIS SW
- Monitoring RTIS

The data connection to the various RTIS installations have varying bandwidth, from high-speed fiber to low speed VSAT communication. Thus, the GUI has to minimize its data exchange with RTIS as much as possible.

## 5 MANAGEMENT REQUIREMENTS

### 5.1 DELIVERABLES

- RTIS GUI Software
- Documentation:
  - o System Requirement Document
  - o Architectural Design Document
  - o Verification and Test Procedure Document (VCTP)
  - o Test Report
  - o User Manual

### 5.2 DEVELOPMENT SCHEDULE MILESTONES

- KO: May 4<sup>th</sup> 2015
- Preparations + SRD: June 1<sup>st</sup> 2015
- ADD: July 1<sup>st</sup> 2015
- Software delivery + VTCP + Test report: September 28<sup>th</sup> 2015
- Close Out + User manual: November 1<sup>st</sup> 2015

### 5.3 QUALITY REQUIREMENTS AND REVIEWS

The SW has to follow the Software development standards that is used at NMA both for coding and documentation.

### 5.4 MAINTENANCE

The SW that is developed shall be in a state that makes it possible for NMA to maintain the SW and further do further development.

## **6 GENERAL DESCRIPTION**

### **6.1 PRODUCT DESCRIPTION**

The graphical user interface shall run on a local server at NMA premises in Hønefoss. It shall be able to connect to the various RTIS installations. Currently there are 11 such installations. Each RTIS installation consists of a Linux PC running the RTIS SW.

The RTIS GUI shall be able to:

- Start/Stop the RTIS SW
- Configure the RTIS SW
- Monitoring RTIS

### **6.2 GENERAL CONSTRAINS**

The data connection to the various RTIS installations have varying bandwidth, from high-speed fiber to low speed VSAT communication. Thus, the GUI has to minimize its data exchange with RTIS as much as possible.

### **6.3 ASSUMPTIONS AND DEPENDENCIES**

### **6.4 OPERATIONAL ENVIRONMENT**



## 7 GENERAL REQUIREMENTS

### **RTIS-GUI-REQ-0100**

The application shall consist of two parts. One server part that shall be integrated in the RTIS SW (GuiSrv) and a client part (GuiCli) that shall be responsible for the communication with all the RTIS installations and act as a consol for the operator.

### **RTIS-GUI-REQ-0200**

The GuiSrv shall act as a TCP/UDP server and accept connections from the GuiCli. It shall only accept connections from configured ip-addresses.

### **RTIS-GUI-REQ-0225**

The GuiSrv shall establish a communication with the GuiCli trough a UDP connection where status message shall be sent at a configurable rate. The status messages shall be initiated at startup and reflect the state of the RTIS SW. At a minimum indicating normal state (green) and failure state (yellow). If no status message is received the state shall be assumed to be down (red).

### **RTIS-GUI-REQ-0250**

In addition to the UDP connection, a TCP connection shall be established for commands.

### **RTIS-GUI-REQ-0300**

The GuiSrv shall accept the following commands from the GuiCli:

- Restart
- Receive configuration file
- Start datastream
  - o Process information
  - o Monitor data
  - o Event messages

### **RTIS-GUI-REQ-0400**

The data stream (process info, monitor data, event messages, status info) shall have a configurable update rate.

### **RTIS-GUI-REQ-0500**

All commands and data shall be a payload in a message based structure. The messages shall be based on the SATREF protocol with Message Class 27.

### **RTIS-GUI-REQ-0600**

The GuiSrv shall get its monitor data from the monitor tables and the process information from the process table in shared memory.

**RTIS-GUI-REQ-0700**

The event messages shall be managed through a ringbuffer interface with the RTIS alarm system.

**RTIS-GUI-REQ-0800**

The GuiCli shall display the state of all configurable RTIS installations based on received status information.

**RTIS-GUI-REQ-0850**

The GuiCli shall contain a menu that makes it possible to send commands to the GuiSrv.

**RTIS-GUI-REQ-0900**

The GuiCli shall display the received monitor data from the connected RTIS installation in a scrollable list showing at least 10 last messages.

**RTIS-GUI-REQ-1000**

The GuiClient shall display the received process information from the connected RTIS installation.

**RTIS-GUI-REQ-1100**

The GuiCli shall display the received event messages from the connected RTIS installation in a resizable scrollable list.