Geodetic Institute

Statement of Work

RTIS GUI



|  |  |
| --- | --- |
| Dokumentnummer: | RTIS\_GUI-SOW-0001-NMA |
| Versjon: | 0.1 |
| Oppdatert dato: | 04.05.2015 12:23:00 |
| Forfatter: | <navn på forfatter |
| Godkjenner: | <navn på godkjenner> |
| Sti og filnavn: | C:\Dokumenter\Scintillasjoner\RTIS\_GUI\RTIS\_GUI-SOW-0001-NMA.docx |

# Revision History

|  |  |  |
| --- | --- | --- |
| **NORWEGIAN MAPPING AUTHORITY**  **Geodetic Institute**  **Geodetisk driftsentral [GD]** | | |
|  | ***REVISION HISTORY*** |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 0.1 | First draft | 28.04.15 |
| **Rev.** | **Description** | **Date** |

|  |  |  |
| --- | --- | --- |
|  | Prepared by:  Sign:  Checked by:  Sign:  Approved by:  Sign: | Date:  Date:  Date: |

# Contents

[1 Revision History 2](#_Toc418500471)

[2 Contents 3](#_Toc418500472)

[3 About this document 4](#_Toc418500473)

[3.1 Purpose 4](#_Toc418500474)

[3.2 Definitions, acronyms and abbreviations 4](#_Toc418500475)

[3.3 Reference 4](#_Toc418500476)

[4 Abstract 5](#_Toc418500477)

[5 Management Requirements 6](#_Toc418500478)

[5.1 Deliverables 6](#_Toc418500479)

[5.2 Development schedule milestones 6](#_Toc418500480)

[5.3 Quality requirements and reviews 6](#_Toc418500481)

[5.4 Maintenance 6](#_Toc418500482)

[6 General Description 7](#_Toc418500483)

[6.1 Product Description 7](#_Toc418500484)

[6.2 General constrains 7](#_Toc418500485)

[6.3 Assumptions and dependencies 7](#_Toc418500486)

[6.4 Operational environment 7](#_Toc418500487)

[7 General requirements 8](#_Toc418500488)

# About this document

## Purpose

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

## Definitions, acronyms and abbreviations

## Reference

# 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.

# Management Requirements

## Deliverables

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

## Development schedule milestones

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

## Quality requirements and reviews

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

## 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.

# General Description

## 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

## 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.

## Assumptions and dependencies

## Operational environment

# 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
  + Process information
  + Monitor data
  + 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.