CHC CORS Solution

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1.Hardware Solution

2.Software Solution

P2E settings

- Network Configuration
- Access to Web UI
- Antenna Configuration
- Reference Station Setting
- I/O Setting

P2E settings

- Connect P2E with PC via GPS to PC data serial cable

- Run WinFlash and setting by Configure Ethernet settings

- Set receiver IP, port and other parameters which

can help you access to BD970 web through http protocol

- Or set network parameters via WebUI directly
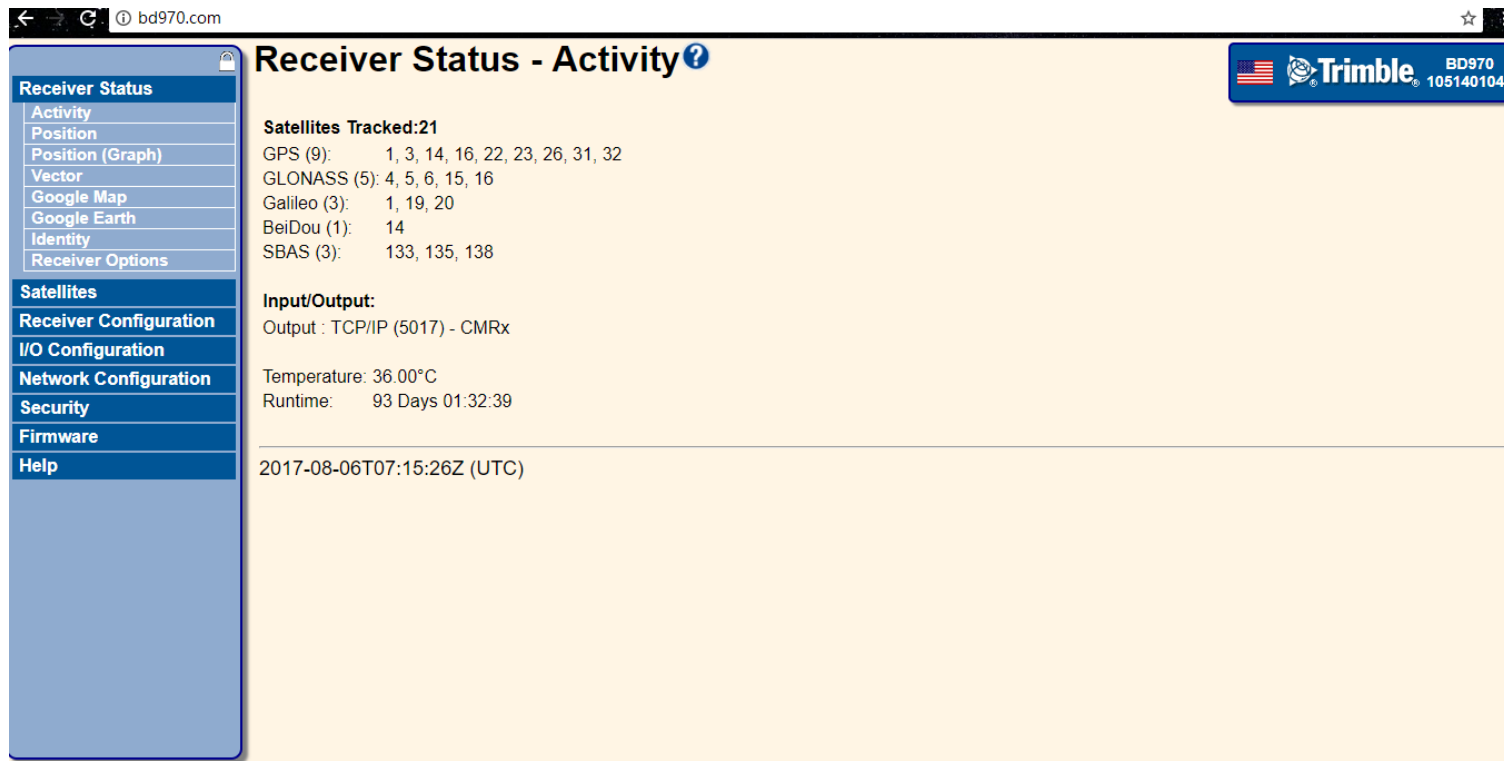
P2E settings

- Type in receiver IP and port in browser

- Access to Trimble Web UI

- Login as Admin (Default User name: admin, Default Password: password)

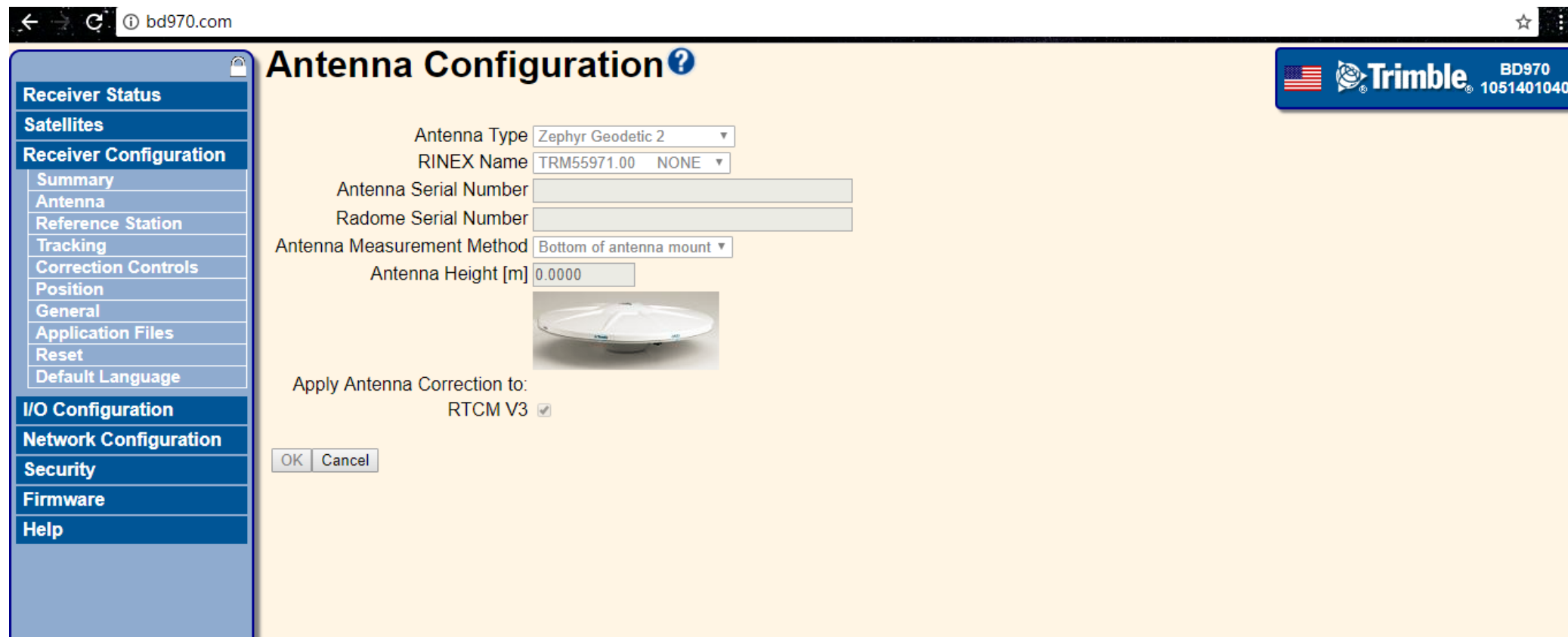# P2E settings

- Click Receiver Configuration-Antenna to enter antenna configuration interface
- Set Antenna Type, Measurement Method and Antenna Height

P2E settings

- Click Receiver Configuration-Reference Station to enter reference station setting page

- Type in fixed coordinates or acquire a current position

- Click OK to finish setting

P2E settings

- Click I/O Configuration to enter I/O page
- Select protocol in list and set detail data format and transmission method

I/O Configuration

Type	Port	Input	Output
TCP/IP	5017	-	CMRx
TCP/IP	5018	-	-
TCP/IP	28001	-	-
TCP/IP	28002	-	-
NTRIP Client 1	-	-	-
NTRIP Client 2	-	-	-
NTRIP Client 3	-	-	-
NTRIP Server	-	-	-
NTRIP Caster 1	2101	-	-
NTRIP Caster 2	2102	-	-
NTRIP Caster 3	2103	-	-
Serial	COM1 (38.4K-8N1)	-	-
Serial	COM2 (38.4K-8N1)	-	-
Serial	COM3 (38.4K-8N1)	-	-
USB	-	-	-

Menu: Receiver Status, Satellites, Receiver Configuration, I/O Configuration (Port Summary, Port Configuration), Network Configuration, Security, Firmware, Help

Trimble BD970 1051401040

P2E settings

- Configue the I/O settings

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1.Hardware Solution

2.Software Solution

CPS key Feature

- Free combination of GPS, GLONASS, BeiDou and Galileo

- Compatible with reference receiver from various manufacturers.

- Distributed deployment to cover larger area and hold more users.

- Functionality modules delivers QC, virtual RINEX service, atmosphere and position monitoring solution.

- SQL server or Access database

- Physical server or virtual server

- Unlimited NTRIP accounts

CPS key feaure

■ CHC Precision Service (CPS) is the processing and resolving software for CORS reference stations and correction data.
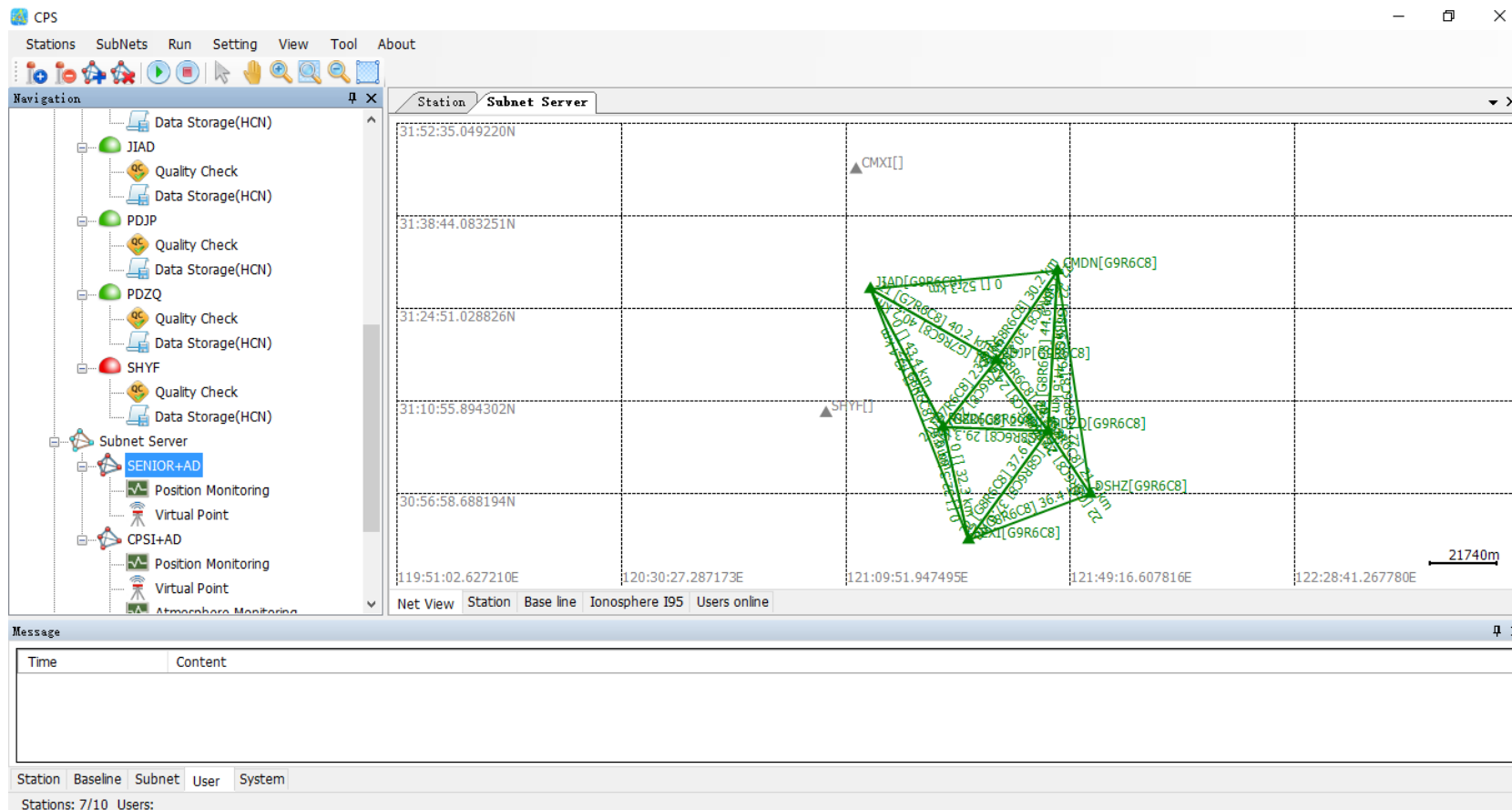
CPS key Feature

Project	Detail
Reference Station compatibility	CHC, Trimble, Topcon, Novatel, Unicorecom, Ashtech, Comnav, Hemisphere, Septentrio ... Also support RTCM2.x and RTCM3.x data format
Various correction data support	Support RTD and RTK. Support RTCM 2.3/2.4/3.0/3.1/3.2 and RTCM3 1021-1027 messages is also available. CMR/CMR+, transmit SCMRx
Multiple communication protocol	Support TCP, UDP, NTRIP and Telnet.
Service solution	Support single station, Virtual mode, Original Diff Data .
Selectable modules for different requirements	For reference station, Quality Check module and Data Storage module is available; For subnet, Position Monitoring module and Virtual RINEX module is available

CPS modules

- Quality Check Module can help CPS administrator to find the problem in advance by real-time data quality check for each reference station.

| Stations(PDZQ) | Subnet Server | System Monitoring |

NO.	PRN	Use Ratio(%)	MP1(m)	MP2(m)	MP5(m)	nSlip
4	G07	98.6	0.43	0.39	0	130
5	G13	99.9	0.14	0.2	0	99999999
6	G15	99.9	0.25	0.26	0	99999999
7	G19	100	0.38	0.34	0	99999999
8	G20	99.8	0.27	0.28	0	99999999
9	G29	99.9	0.22	0.22	0	99999999
10	G30	99.8	0.49	0.48	0	99999999
11	R04	99.5	0.34	0.29	0	99999999
12	R05	99.5	0.29	0.26	0	99999999
13	R06	99.4	0.57	0.4	0	1850
14	R18	100	0.37	0.37	0	99999999
15	R19	99.6	0.32	0.28	0	99999999
16	R20	99.5	0.3	0.26	0	3700
17	R21	82.9	0.5	0.29	0	99999999
18	C01	99.9	0.1	0.07	0	99999999
19	C02	99.9	0.24	0.16	0	99999999
20	C03	99.8	0.17	0.15	0	3714

Quality Check One Module | Quality Check All Modules

CPS modules

- **Data Storage Module** record the observation file from reference station.

- **Multiple** formats supported: Binary, RINEX 2.10, RINEX 3.02, compressed RINEX and HRC.
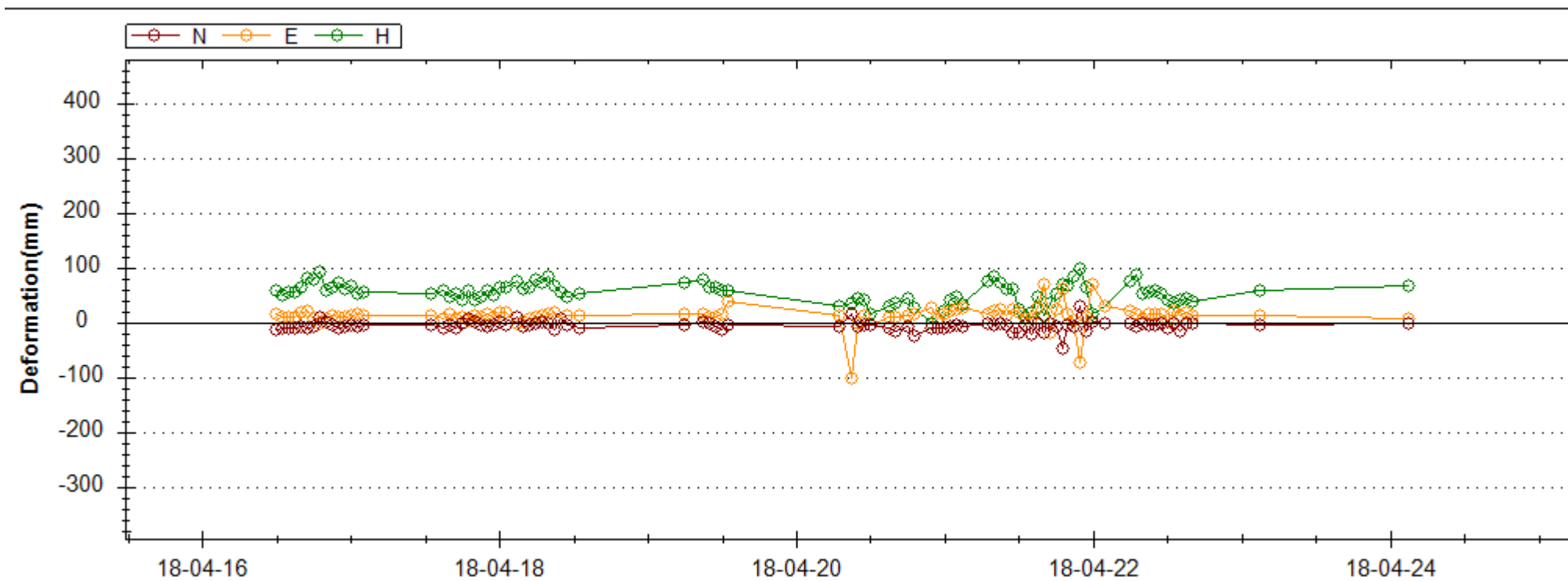
- Support FTP pushing.

CPS modules

- **Position Monitoring Module** is designed to monitor the position deformation of the antenna. By post-processing the result of each station displacement will showed as table, graphs and stored in database.

CPS modules

- **Virtual Point Module** is designed to simulate a virtual reference station and log the raw data in Binary and RINEX format.

Get started with CPS software

Step 1	Build running environment, runtime,
Step 2	Install database service
Step 3	CPS configuration

Running environment

- OS: WindowsXP/7/8/8.1/10, Server2008/Server2012 64-bit recommended

- RAM: recommend 16GB for 400 concurrent connections or even lower, 32GB for 1000 connections, 64GB for 4000 connections

- CPU: recommend Quad-core or higher, 2.5 GHz or higher

- Disk: 300MB for installation; recommend 30 GB for data storage (depending on how much update rate of observation file required) ;

- Environment: .NET Framework3.5, .NETFramework4.0, VisualC++, Runtime

Install database service

- Follow SQL Wizard to complete installation of database server

- Set SQL Service-SQL Network Configuration-TCP/IP properties
  - IP1&2 active and enable with TCP port in 1433
  - IPAll TCP port in 1433

- Set SQL Service-SQL Native Client 11 Configuration-Client protocols-TCP properties
  - Default port in 8804

- Run CPS to automatically create EXAP and HCORS database

CPS configuration

- The first time run CPS software, it will pops the warning tip 'Database error'.

- Don't worry, it just happens to every single server at first time.

- Go to Setting-Project Setting to connect to correct database path, sa and password.

CPS configuration – registration

- Registration code for functionalty.

- Two registration identification method: Dongle and Machine code.

CPS update

- Any update for CPS, users can directly drag the configuration file from old version and drop it into the new version directory in order to clone the settings without losing any configuration.

- The configuration file is named as Setting.config and it will be found in the root directory of CPS 64-bit.

CPS configuration – add station

- Click Add Station button

- Type in Station Name, Code and Coordinates

- Select Receiver Type, Coding Method and Antenna Height

- Type in data transmission method

CPS configuration – build subnet

- Click Add Subnet button
- Type in Subnet Name, Service port and Station used
- Select Service Type, System and Atmosphere Model
- Set in coordinate system info or CPCaster setting for additional using

CPS configuration – start RTK service

- Click Run – MountPoint Manage

- Click Run – User Manage

Thank you!