

# CyberSentry™ Upgrade to DS Agile 6

## Seamless Upgrade, Increased Security

A number of substation automation systems were commissioned at a time when cyber security was not a concern. However, the cyber threat landscape is evolving fast and cyber-attacks on the grid are no longer found only in blockbuster movies, they are a reality.

So now, one of the top challenges of the industry is to manage cyber risk and secure a large installed base, all the while being conscious of CAPEX and OPEX. GE responds to this challenge with its CyberSentry™ upgrade to DS Agile 6 offer.

DS Agile 6 is aligned with industry cyber security standards such as NERC CIP, IEC and IEEE. It implements a multi-layered, defense-in-depth strategy to help mitigate occurrence and impact of deliberate or inadvertent cyber-attacks, featuring supported operating systems, secure design, anti-malware, security logging and many more.

The upgrade from PACiS 4.4 (and above) and DS Agile 5.0 (and above) to DS Agile 6 is fast, requiring very little hardware change nor operator training.

CyberSentry™ upgrade to DS Agile 6 service is the solution for GE's customers that need to quickly increase their cyber security maturity level across multiple substations in a short period of time.

### Key Benefits

- State of the art cyber security with DS Agile 6
- Long term support with software and firmware security updates
- Extended the substation PAC lifetime
- Update the control system now, protection relays later
- Ready for new IEC61850 relays
- Fast intervention to minimize the off-circuit time

### Applications

- MS Windows 10 upgrades
- Cyber Security maturity level increase
- Regulation compliance
- Critical infrastructure
- PACiS 4.4 and above, DS Agile 5.0 and above
- Transmission, Utilities, Industry



## Key Features

- State of the art cyber security
- PC replacement, upgrade to MS Windows 10
- C264 firmware upgrade
- Configuration database upgrade

## Fast-track upgrade

- No change in protection relays
- No rewiring needed
- No operator training needed (same OI)
- Short outage time



## DS Agile 6

GE has strongly reinforced the substation cyber security by implementing in DS Agile a differentiated defense in-depth strategy.

DS Agile 6 brings network segregation, authentication, anti-malware capabilities, system hardening, encrypted protocols, support for Windows 10, security logging with syslog, security updates and many more. Read the DS Agile cyber security brochure for more details.

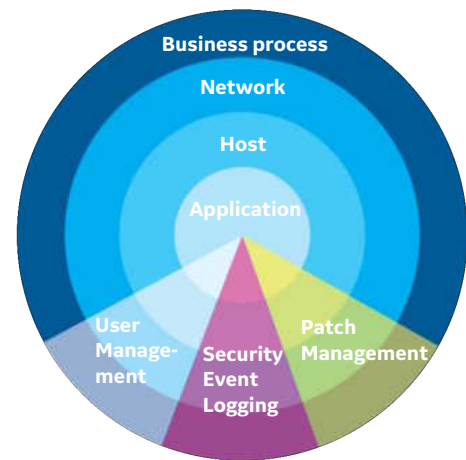


Figure 1: Defense-in-depth

## Hardware Upgrade

- CPU board of bay computers installed with PACiS prior to version 4.6 need be replaced with CPU type 3. The CPU3 has been deployed in substations for more than 10 years, showing exceptional reliability
- Bay computers installed with PACiS 4.6 and DS Agile 5 and beyond do not need be upgraded
- Substation PCs are replaced with modern computers running the MS Windows 10 operating system

## Software Upgrade

- The C264 firmware is upgraded to the latest DS Agile 6 version. This is done at the factory on the CPU Type 3 boards when boards are replaced, directly on site otherwise
- DS Agile 6 OI (servers and clients), gateways and engineering workstations PCs are pre-installed and configured at the factory
- The substation configuration database is migrated to the latest DS Agile 6 version at the factory

## Factory Activity

Non-regression testing at the factory ensure that any upgrade issue is caught up before site activity.

Examples of test cases:

- Validation of system part (server redundancy, OI redundancy, stress test, SCADA test, time synchronization)
- Interlocking logic validation and a sample of input/output of BCU and their SET/RESET status
- Validation of ISAGRAF logic
- Synchro-check, Auto-Reclose, Breaker failure validation
- BCU protection function validation

## Site Activity

Installation time on site is short:

- PCs are drop-in replacement
- C264 boards can be replaced without taking the BCU out of the cabinet
- No re-cabling or rewiring needed
- Protection relay stay online to protect the substation
- Possibility to migrate in several steps (bay by bay)
- Once the upgrade is done, tests are executed again to validate the system on site

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