ProSafe-RS R4 adopts the same architecture as CENTUM VP R6 to improve the engineering environment, thus greatly shortening the project schedule.

ProSafe-RS R4

N-IO (Network I/O): Smart Configurable I/O (SCIO)

In addition to conventional I/O modules dedicated for specific signal types (FIO module), ProSafe-RS R4 can offer the N-IO module, which handles different signal types at each channel. By concurrently accepting both types of module, ProSafe-RS R4 can deal more flexibly with a customer’s plant design requirements.

- **Features**
  - DI/DO/AI/AO signals can be handled at a single module. The types of I/O signal at each channel can be changed with software.
  - Remote installation up to 50 km is available by using optical cables.
  - SIL3 can be achieved with single configuration. Redundant configuration is also selectable.
  - Terminal block has a disconnect function of signal loop of field devices as a standard function.
  - An N-IO baseplate is available for intrinsically safe barriers.

FieldMate Validator: software for validating and configuring N-IO loops

Combined with N-IO modules, FieldMate Validator allows the field devices testing and validation without having a controller and an engineering station. This software is offered as an option of FieldMate.

Benefits of ProSafe-RS R4

Early start-up of a plant

- **Challenge:**
  Starting up a plant more quickly has long been an issue that directly affects customers’ profits.

- **Our solution:**
  Application engineering and hardware engineering can progress independently and parallel. This parallel work shortens the project schedule, either by starting later or by possibly enabling an earlier start-up.

Reducing risks to scheduled project delivery

- **Challenge:**
  The I/O definition often needs to be changed due to physical constraints. Such problems usually occur during commissioning and may prolong the project schedule, as well as require costly re-wiring.

- **Our solution:**
  The I/O definition of N-IO modules can be changed more flexibly. Signal types among DI/DO/AI/AO can be switched only with software, and there is no need to change I/O modules. Since signal types can be designated at each channel, there is no need to stock I/O modules for each signal type, reducing maintenance costs.

Highly flexible installation

- **Challenge:**
  Sufficient space is needed to mount I/O modules. Also, the marshalling to connect field devices and I/O modules require space and work, increasing costs. This may reduce the number of possible locations for arranging I/O modules.

- **Our solution:**
  N-IO modules do not need the hardware marshalling. Conventionally, this marshalling is necessary to arrange field wiring for each signal type and to connect them to I/O modules dedicated for specific signal types. In contrast, multiple types of signal can be assigned to a single N-IO module, and there is no need for arranging signal types and thus marshalling. For this reason, N-IO modules need less space and wiring for installation. This module is ideal for flexible and distributed installation in the field. Furthermore, the use of N-IO modules eliminates the need for marshalling cabinets, further saving space and costs.
Improving the quality and efficiency of engineering

■ Challenge:
Many issues inevitably occur in the plant lifecycle, such as expansion and reconstruction of the plant as well as a change of person in charge. Over time, the actual system gradually diverges from the configuration at the initial design stage, deteriorating the quality of subsequent engineering.

■ Our solution: N-IO AD Suite
AD Suite maintains the consistency of the design information of the system throughout the plant lifecycle. The customer's design can be kept up-to-date for a long time. Since the range affected by changes can be clarified at any time, deviations do not arise between the actual system and the design information when the system is to be expanded or reconstructed, or during maintenance service. In addition, since ProSafe-RS R4 uses an I/O module similar to those for CENTUM VP (N-IO module), the procedures for installation, verification, and maintenance are the same as for CENTUM VP, which reduces the likelihood of misoperation by engineers and other possible problems.

Yokogawa's commitment
Yokogawa's system platforms combined with proven execution experience provide the highest quality and innovative solutions for secure and optimized process automation and management. Yokogawa's global customer centric focus together with strong local support reduces users' business risks and provides the lowest total cost of ownership. With a long history of progressive compatibility, Yokogawa is your dependable automation partner.

Synaptic Business Automation underlies a process of co-innovation and collaboration with customers that leverages Yokogawa’s domain knowledge and digital automation technologies to create sustainable value.

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