POCKET

'Front-line' process control with OperateᴵᵀPocket Portal™
Rune Persson

WATCH

What maintenance or commissioning engineer, while making his rounds, hasn't at some time wished he could directly access technical information to check out a potentially disruptive situation he can see developing on the factory floor. And then change some parameters to rectify the situation – all without having to go back to the control room.

That's exactly what Operateᴵᵀ Pocket Portal lets you do. With functionality that has been specially developed for a PDA's small screen, Pocket Portal provides key, real-time information that shifts decision-making closer to the actual industrial process.
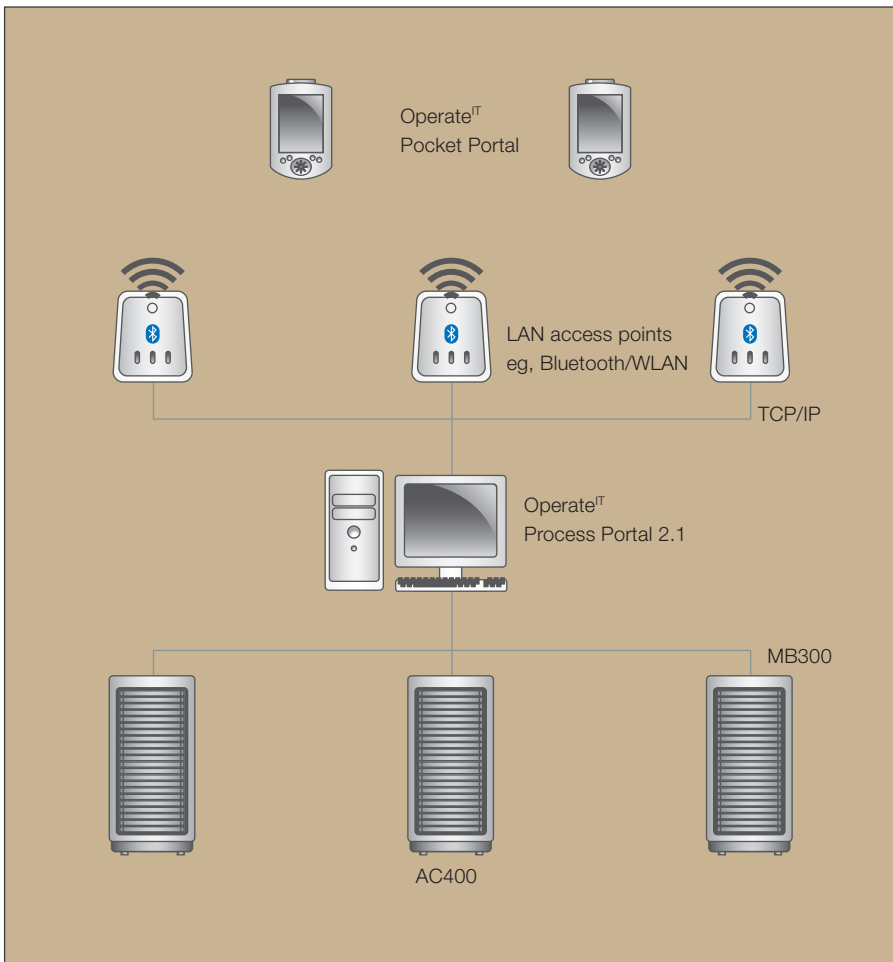
With Pocket Portal™, ABB gives plant operators and engineers access to selected process control information wherever they are, helping them to understand more clearly what they can see, hear, feel, even smell, as they walk around a facility. Combining smart software with standard wireless technology, Pocket Portal puts vital information and control capabilities into whatever off-the-shelf PDA the customer chooses to use. In fact, one of its biggest benefits is that it works through standard, compact PDAs available in shops everywhere.

Hands-on control
What Pocket Portal does is move some of the decision-making in process con-

trol out of the central control room and into the actual operations area. Much more than just a mobile control terminal, it lets operators and engineers access information they have selected themselves as they walk around a facility, enabling them to complement personal observation with control system data, and if necessary take immediate action.

Operators in most process industries can benefit from Pocket Portal. In the pumping stations of wastewater plants, for example, where an operator interface can only be justified for about one percent of the time. Or, more generally, for the maintenance of drive motors and

Operate^{IT}
Pocket Portal

LAN access points
eg, Bluetooth/WLAN

TCP/IP

Operate^{IT}
Process Portal 2.1

MB300

AC400

With Pocket Portal™ software installed in the PC, an Industrial^{IT} automation system (eg, with Advant Controller 400 controllers and Process Portal™ operator interface) can communicate with wireless PDAs via WLAN, Bluetooth, or other similar local wireless formats.

TCP/IP

Process Portal 2.1
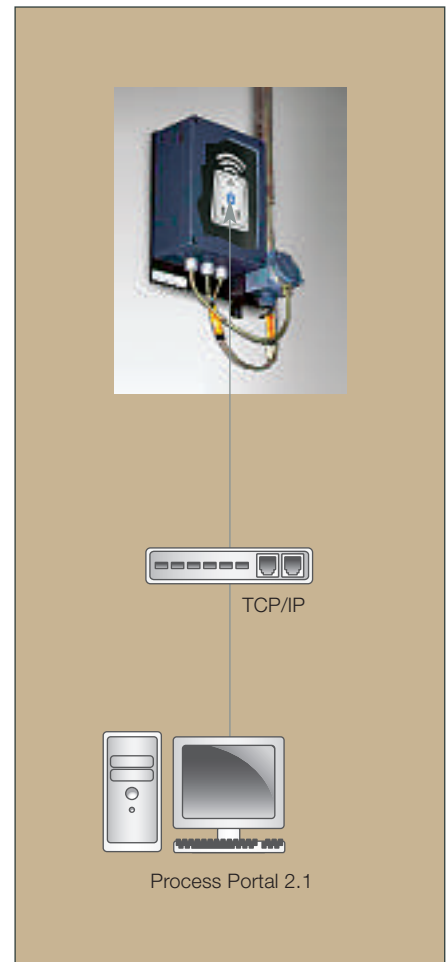
Multiple objects can be monitored and controlled via any wireless access point in a network.

valves; this can involve monitoring and changing system values at the same time – something usually best done on the factory floor, with intuition backed up by hard data, rather than from some remote control desk.

A choice of local wireless formats

To work, Pocket Portal requires an ABB Industrial^{IT} automation system with Advant Controller 400 or Master-Piece 200/1 controllers and a PC-based Process Portal™ operator interface. Installing the Pocket Portal software in the PC enables the automation system to communicate with wireless PDAs via WLAN, Bluetooth, or other similar local wireless formats. Process opera-

tions staff out on the factory floor or around the facility can view control parameters and alarm lists using the web browsers in their PDAs, and directly control equipment using simple commands. Pocket Portal exploits the possibilities of 'thin client' technology to provide a mobile intranet for manufacturing and other industrial process applications.

All software maintenance is performed centrally, with the computer running

both Pocket Portal and Process Portal. The Pocket Portal mobile terminal interface runs on wireless PDAs of any type that use Microsoft Pocket PC 2002. Pocket Portal can be configured for both Bluetooth and WLAN communication. The maximum operating range, ie the farthest away from access points it can be operated, will depend on the wireless technology employed. Each individual piece of process equipment, sensor, etc, is desig-

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nated as an object, and multiple objects can be monitored and controlled via any wireless access point in a network. Selected object information is displayed on the screen of the PDA using an easy-to-read alphanumeric faceplate format.

Unrestricted access points

An attractive option of Pocket Portal is intelligent positioning. This means that the screens and alarm lists which are first displayed when an operator connects to an access point apply specifically to the objects under that access point. As the operator changes access points, the default screens and alarm lists change accordingly.

Nevertheless, operators can be given access to all objects in a facility regardless of which access point they use to link to the network. Security management is facilitated by passwords and multiple privilege levels.

Functionality

Pocket Portal includes three types of functionality:
- Basic functionality
- Pocket Alarm functionality
- Pocket AC 400 Connect functionality

Basic functionality

The user can move freely in all areas within range of an access point and still access the system via a mobile client, instead of being bound to the control room. A standard browser is used in the mobile client that is optimized for the limited screen size. The server provides the clock time to the client. Pocket Portal also can be configured to show a specific page and alarm list at start-up.

Pocket Alarm functionality

An alarm list shows the object, status and time of each alarm. It is possible to freeze the list and to go back and forward within it. The user can acknowledge either each alarm or a page at the time. Information not displayed due to the limited screen size can be called up and shown as alarm details.

Pocket AC 400 Connect functionality

Predefined faceplates for most common object types make optimum use of the limited screen. The faceplates use dialogs for information input, so values can be changed from the mobile client. Objects can be grouped together in group dis-

Pocket Portal works through standard, compact PDAs available in shops everywhere.

plays, which can be reached from the menu, to help with navigation. It is possible to search for an object with part of the object name. From the list of matching objects, one can be selected and its faceplate accessed.

Small screen, full program

What sets this technical solution apart from others is that it has been specially developed for use with PDAs, with functionality suited for a very small screen. Also, as an Industrial[IT] Enabled product, it is integrated in Operate[IT], one of the product suites defined for ABB's Industrial[IT] architecture. This suite covers products, like Pocket Portal, designed to facilitate interaction between automation systems and human operators.

Part of the uniqueness of Pocket Portal also comes from its strong focus on providing the specific functionality needed outside of the control room, and that the information it gives is position and user dependent. Armed with these features, Pocket Portal minimizes the risk of errors and misunderstandings, shortening the time needed, for example, for start-ups.

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