Composite Application for Maintenance Order Processing

Summary

Find out how the composite application Maintenance Order Processing enables companies in various industries to efficiently and cost-effectively handle malfunctions reported via a document or an external monitoring system. It supports a single guided procedure for creating, approving, assigning, and confirming maintenance work orders.

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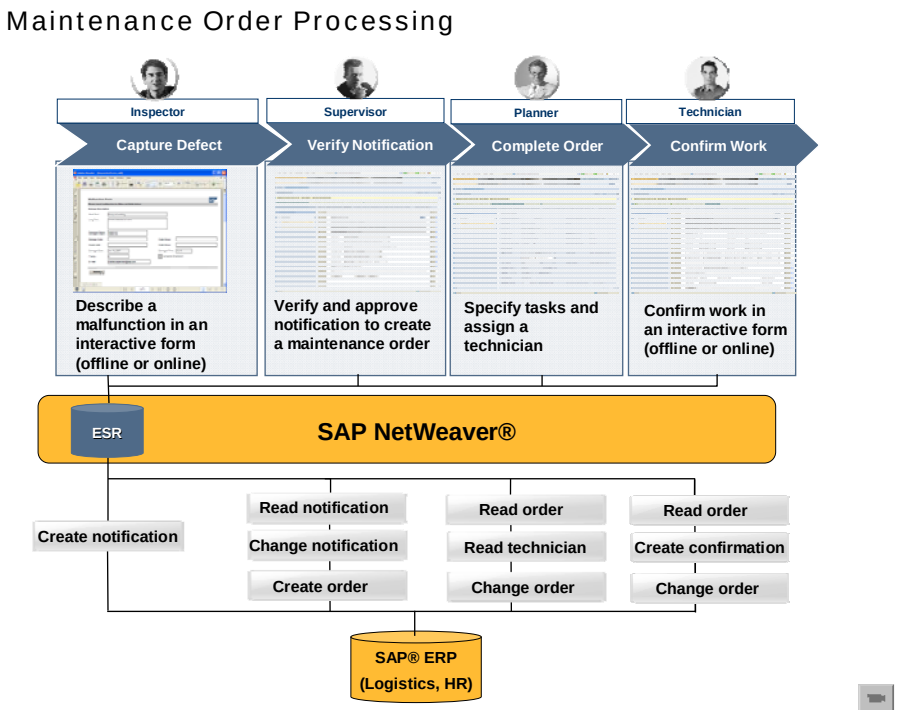
Introduction – Business Context

In the area of processing maintenance orders, companies often work with multiple, nonintegrated applications. Many of these applications are proprietary developments with very basic functionality. Ineffective paper-based processes with a high error rate are very common.

A guided procedure that is supported by interactive forms and covers the complete life cycle from creation to final completion of a maintenance order could increase efficiency and cost control through one integrated process.

The composite application Maintenance Order Processing enables companies of various industries to efficiently and cost-effectively handle malfunctions reported via a document or an external monitoring system. It supports a single guided procedure for creating, approving, assigning, and confirming maintenance work orders.



Benefits

By using the composite application for maintenance order processing, companies can achieve the following business benefits:

- Increased process **efficiency** and **quality** by:
    - Reducing manual error prone process steps
    - Speeding up business processes
    - Offering high usability for occasional users
- Increased process transparency
- Increased flexibility since the composite application:
    - Is model driven and uses standardized enterprise services
    - Is easy to adapt by simply adding further process steps

- Extends the reach to new user groups

Furthermore, the use of SAP® Interactive Forms by Adobe:

- Changes paper-based processes into electronic processes
- Enhances usability through familiar look-and-feel
- Supports offline scenarios
- Avoids manual data re-entry

Scenario I: Form-Based Defect Capture

Report Malfunction via SAP Interactive Forms by Adobe

A maintenance inspector detects damage at a machine being inspected. Using a laptop, the inspector describes the malfunction in an interactive form by entering text about the malfunction, the number of the damaged equipment, codes about type and cause of the damage, date and time of the damage, priority, and a breakdown indicator. When the inspector submits the form, an e-mail is created with the interactive form attached and is sent to a maintenance supervisor.

If the inspector is currently offline, the e-mail remains in the outbox of the e-mail client. As soon as the inspector is online, the e-mail is sent automatically, and a guided procedure is started on the recipient's side.

On the technical side: at runtime the guided procedure periodically retrieves all incoming e-mails in a predefined inbox of Microsoft Exchange Server and processes any attached interactive forms.

Approve or Reject Maintenance Request

The maintenance supervisor accesses the universal worklist (UWL) of her portal work center and finds two new work items. Each item contains an interactive form with a malfunction description reported by different maintenance inspectors.

On the technical side: The UWL is a portal user-interface pattern for processing incoming tasks and can be applied for each role in process flow.

The supervisor checks the first request for maintenance. After reading the malfunction information, the supervisor decides that a technician is not needed to repair the malfunction. Therefore, no work order has to be created. The supervisor adds a comment to the maintenance request and rejects it. The request gets the status "closed."

The supervisor checks the second request. This malfunction has to be repaired by a technician. When the supervisor approves this maintenance request, a maintenance order is created automatically and forwarded to a maintenance planner.

Complete Maintenance Order and Assign Technician

As the next processor role in the process flow, the maintenance planner accesses the UWL of his portal work center and finds a new work item. The planner completes the maintenance order by describing the tasks needed to repair the malfunction, including an estimated time for its fulfillment, and defines the required materials.

The planner assigns a technician to the maintenance order. Based on availability, skills (optional), and work-center allocation, the guided procedure displays all technicians that are able to do the work. The planner selects the technician with the lowest number of assigned open orders and saves the order. The maintenance order is forwarded to the technician.

Confirm Order

Accessing her inbox, the technician finds a new item containing an Adobe interactive work-order form. The work-order form contains the damage description and detailed information about the repair work to be done. After finishing the work, the technician enters the following confirmation data into the interactive form:

- Actual start and end time of the work
- Additional confirmation text
- Needed materials
- Number of any damaged equipment removed
- Number of the new equipment installed

When the technician submits the form, a confirmation is created; the maintenance request and maintenance order are closed.

Instead of sending a guided-procedure work item to the technician, an e-mail with the Adobe interactive work order form attached can be sent to any internal or external e-mail address. Similar to the guided-procedure work item, the e-mail with the confirmed work order form can be sent to the guided procedure.

In general, it is possible to process Adobe interactive forms online or offline.

Scenario II: Defect Reporting by Monitoring System

Report Malfunction and Create Maintenance Order

As an alternative to manually capturing the malfunction via an Adobe interactive form, the reporting process can be automated by linking an external monitoring system to the guided procedure. When the monitoring system reports a malfunction, the composite application creates a maintenance order automatically based on the alarm ticket and forwards the order to the maintenance planner.

Complete Maintenance Order and Assign Technician

Similar to scenario I.

Confirm Order

Similar to scenario I.

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