

SAP Alert Management

Dr. Erhard Weidenauer, SAP AG

Dr. Christoph Nake, SAP AG

Johannes Jonas, SAP AG

Motivation

What Is Alert Management?

Example Demonstration

Alert Category Definition

Recipient Assignment

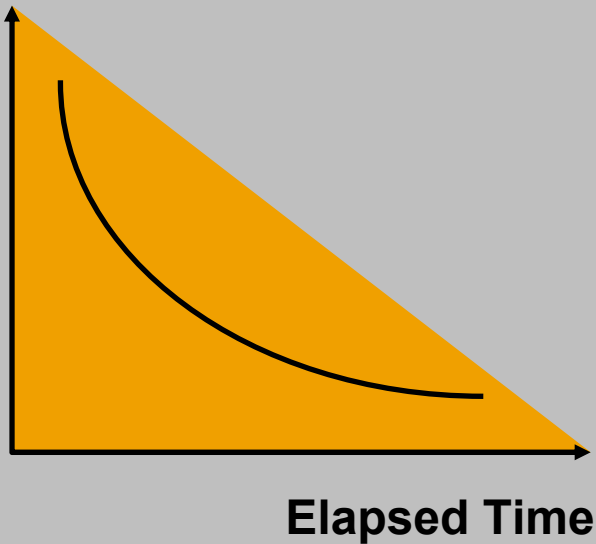
Triggering Alerts

Delivery Channels

System Configuration

Summary

Value of time-critical information



SAP applications recognize critical situations for a company

- Insufficient system resources, system administration (mySAP Technology, CCMS)
- Delivery problems for an important order (mySAP SCM)
- Drastic decline in revenue (mySAP BI)
- Key customer cancels contract (mySAP CRM)...

Third-party applications recognize critical situations, too

- Control desk of a production plant: Overloading
- Stock value goes below limit
- ...

Motivation

What Is Alert Management?

Example Demonstration

Alert Category Definition

Recipient Assignment

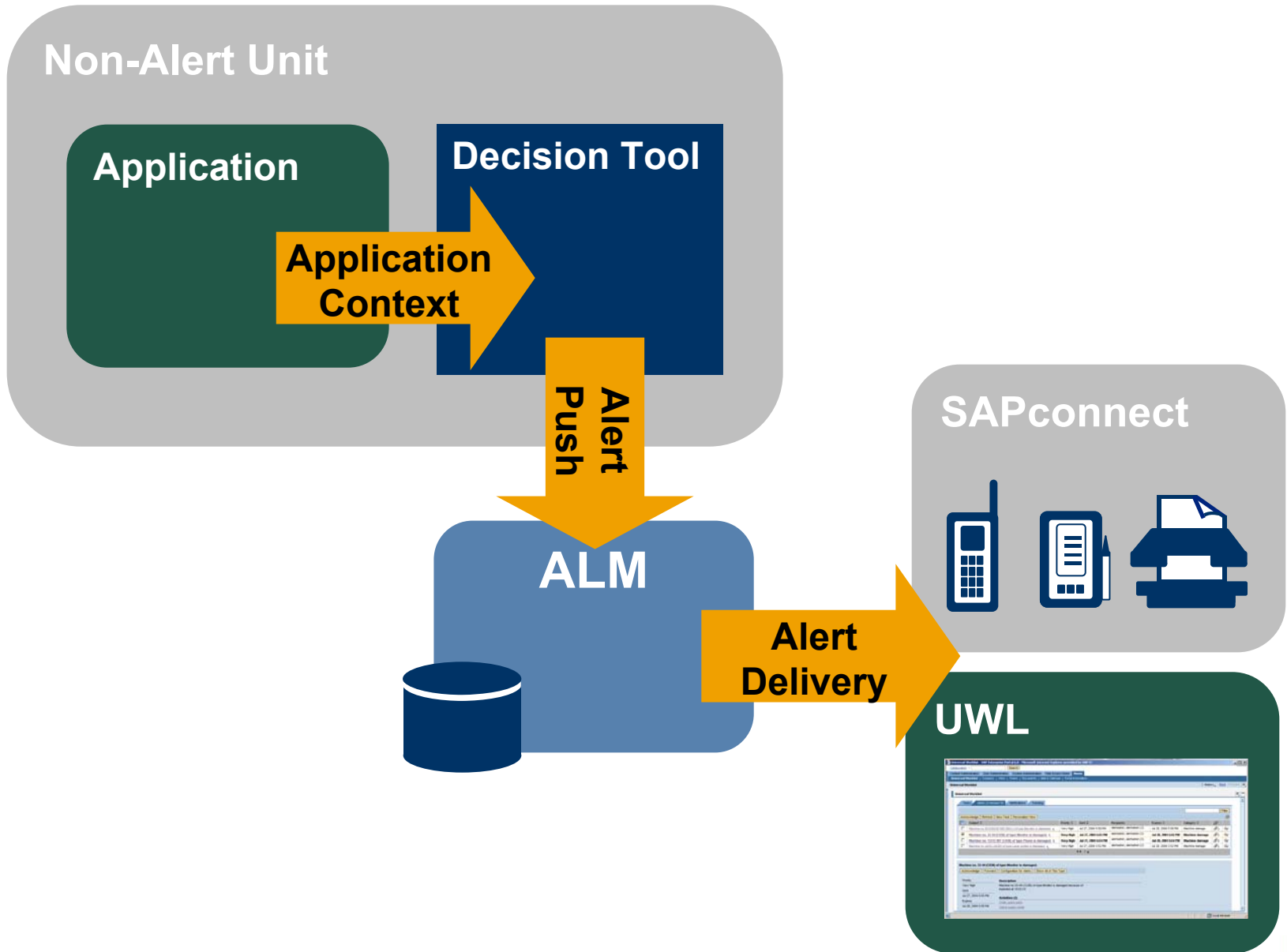
Triggering Alerts

Delivery Channels

System Configuration

Summary

General Alert Management Scenario



In many processes and applications, critical situations arise. The information about a situation is distributed to an appropriate recipient list in form of an alert.

An alert is characterized by the following:

Someone must react immediately!

Keep in mind:

- If no one has to react, it's just a notification.**
- If the immediate reaction is not necessary, it's a work item.**

Example: The single processing of an alert takes about 30 minutes and you receive 10 alerts within 1 hour. Hence, you need 5 hours to process these alerts.

Keep in mind:

- Not all alerts can be handled immediately. For some alerts, the processing is delayed for several hours.
- The alert loses its exceptional character, since almost the entire working day is filled with alert processing.
- Getting used to the ongoing escalation status of the alerts, you treat them as work items.

Sending too many alerts inhibits immediate processing.

Example: For an alert category, you have defined 10 recipients. Some alerts belonging to that category are triggered.

Keep in mind:

The fact that you are aware of the 9 other alert processors can lead to the situation that no one takes care of the alert.

Think twice about possible group dynamics, before defining large recipient lists.

- **Active delivery of mission critical information:**
Support for e-mail, SMS/pager, fax, Web interface, and so on
- **Personalized alert delivery**
Get messages via your preferred channel
- **Define which content is relevant for you**
Publishing and subscription mechanism for alert topics
- **Easy-to-use definition environment for customer projects**

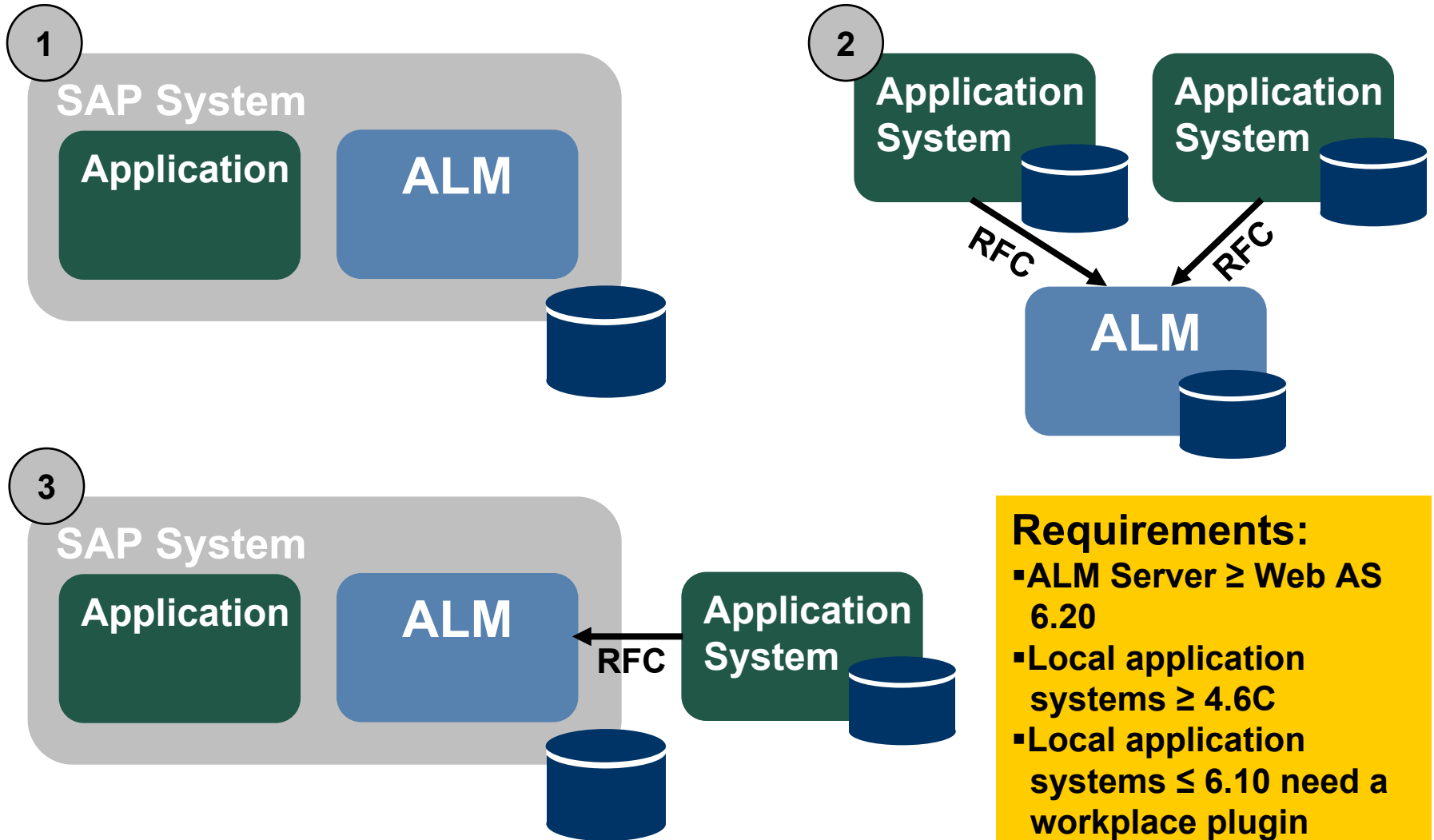
The Alert Management system is available since SAP Web AS 6.20.

Alert Delivery Logic implemented by:

- CRM (Customer Relationship Management)
- SCEM (Supply Chain Event Management)
- APO (Advanced Planner and Optimizer)
- CCMS (Computer Centric Monitoring System)
- PLM (Product Lifecycle Management)
- BW (Business Information Warehouse)
- ...



Possible System Landscapes



Requirements:

- ALM Server \geq Web AS 6.20
- Local application systems \geq 4.6C
- Local application systems \leq 6.10 need a workplace plugin

Motivation

What Is Alert Management?

Example Demonstration

Alert Category Definition

Recipient Assignment

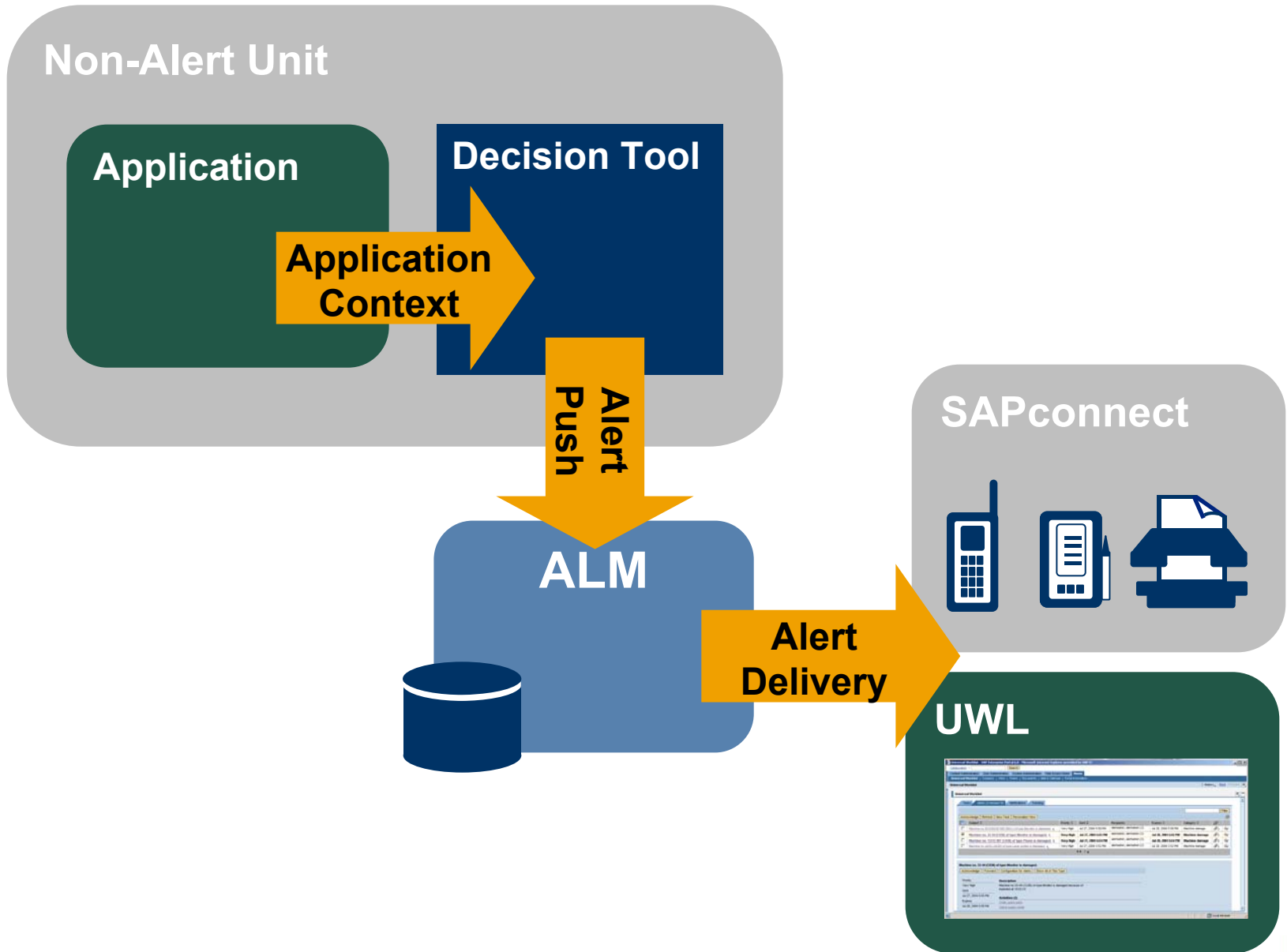
Triggering Alerts

Delivery Channels

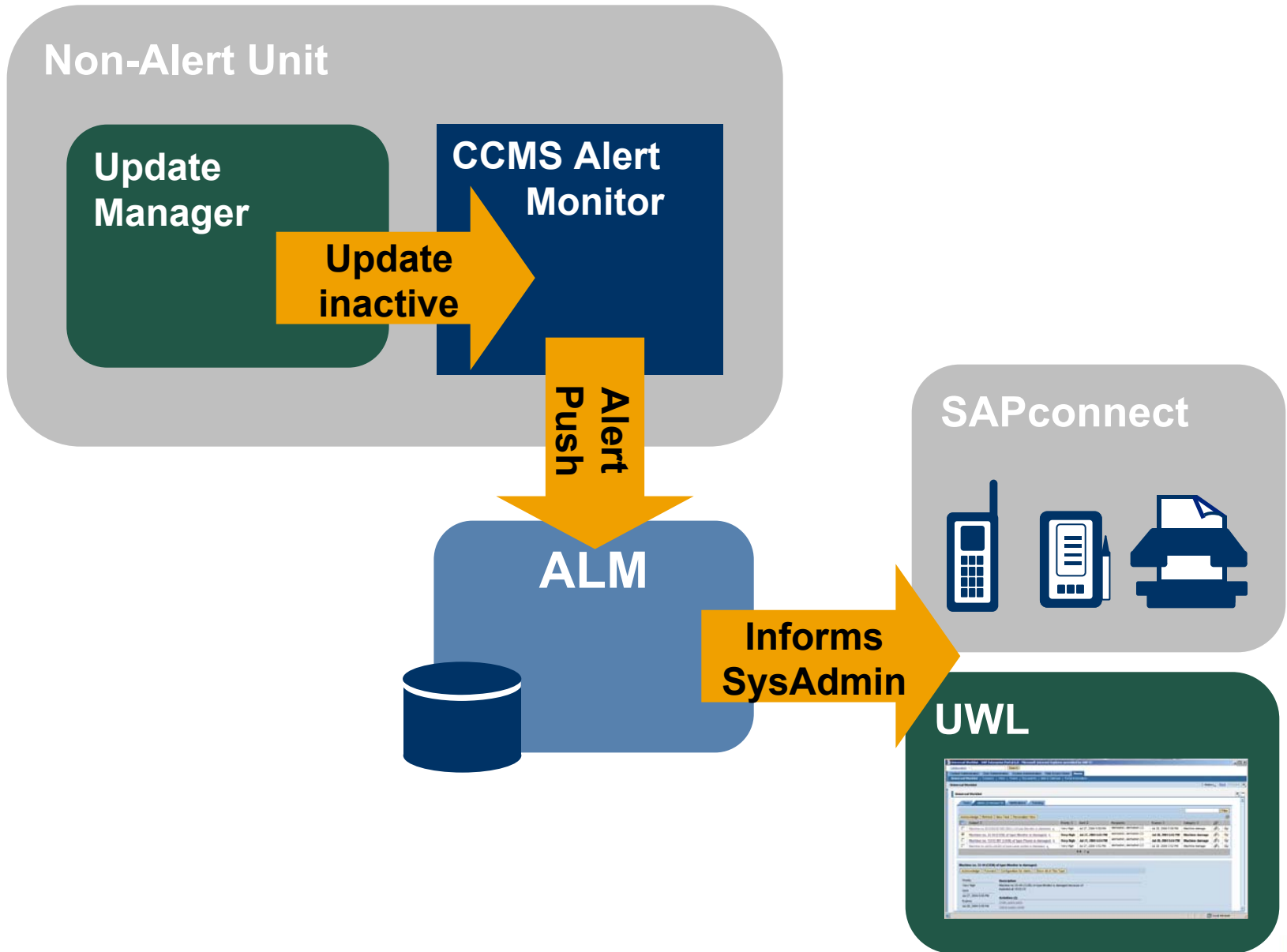
System Configuration

Summary

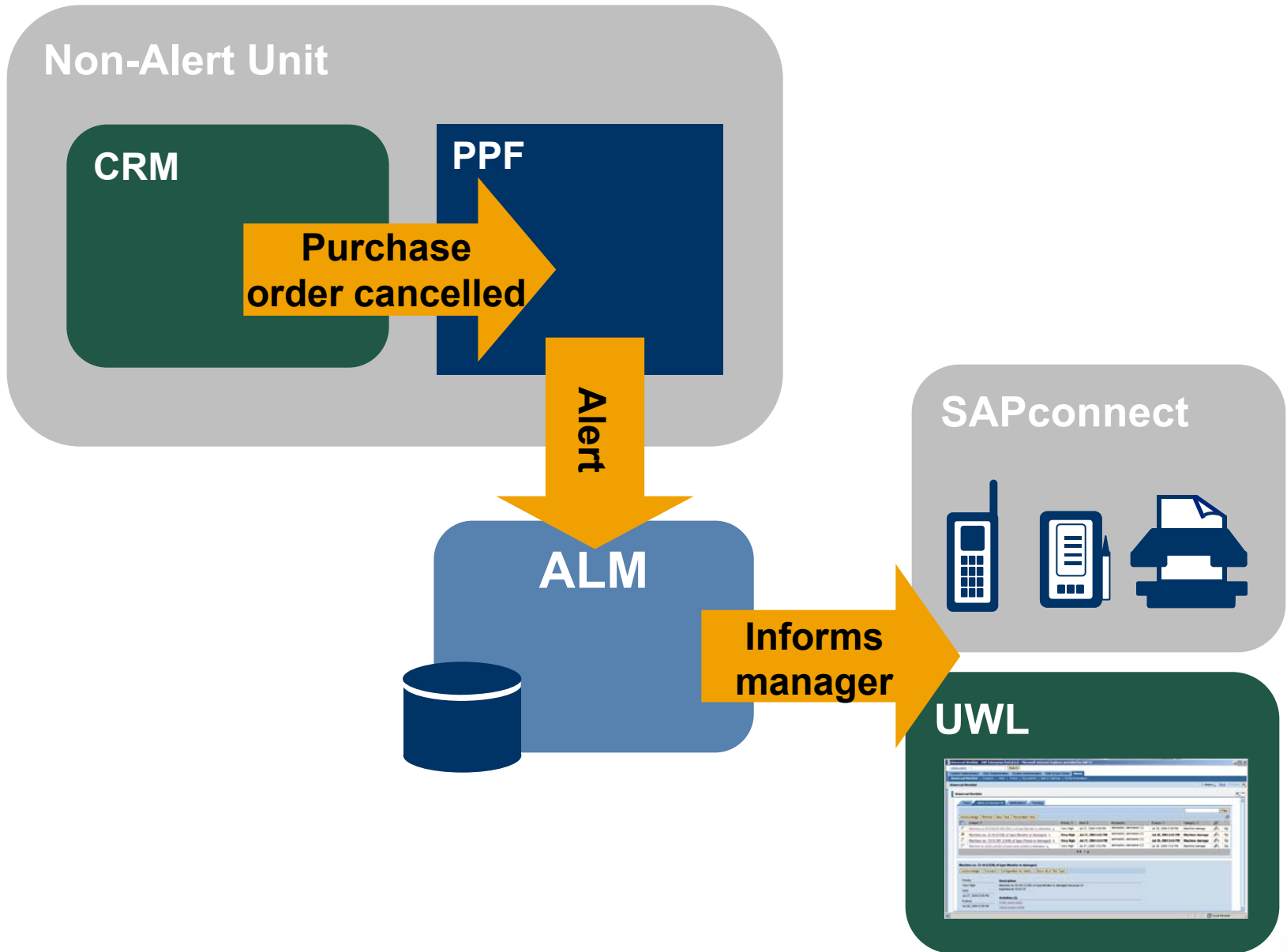
General Alert Management Scenario



Example of a Technical Scenario



Example of a Business Scenario



Motivation

What Is Alert Management?

Example Demonstration

Alert Category Definition

Recipient Assignment

Triggering Alerts

Delivery Channels

System Configuration

Summary

Alerts within an alert category are defined by various properties:

- **Title, short text and long text**
- **Variables that can be used in title, short or long text (application data)**
- **Priority**
- **Recipients**
- **Escalation procedure**
- **Subsequent activities (in form of URL's)**
- **...**

Alert categories can be defined by applications or customers using the alert category definition environment in transaction ALRTCATDEF.

Definition of an Alert Category (2)

Overview of alert categories on this server

Transaction code ALRTCATDEF

The screenshot displays the SAP Alert Categories Display (Central Alert Server) interface. The left sidebar shows a tree view of alert categories, with 'Machine surveillance' selected. The main area shows a table with one entry: 'MACHINEDAMAGE' with the description 'Machine damage'. Below the table, the 'Alert Definition' tab is active, showing the following details:

Field	Value
Description	Machine damage
Classification	Machine surveillance
Priority	Very High
Max. No. of Dels	3
Expiry Time in Min.	1.440

The 'Escalation' section is also visible, with 'Escalation Active' unchecked, 'Escalation Recipient' as an empty field, and 'Tolerance Time (Min.)' as 0.

Alert category definition

Definition of an Alert Category (3)

The 'Properties' tab is selected. The 'Alert Definition' section contains the following fields:

- Description: Machine damage
- Classification: Machine surveillance
- Priority: Very High
- Max. No. of Dels: 3
- Expiry Time in Min.: 1.440

The 'Escalation' section contains:

- Escalation Active:
- Escalation Recipient: [text box]
- Tolerance Time(Min.): 0

General Properties

The 'Container' tab is selected. It displays a table with two columns: 'Expression' and 'Description'.

Expression	Description
Location	Location of the damaged machine
Machine Type	Machine type of the damaged machine
Machine ID	Machine ID of the damaged machine
Damade reason	Damade reason

Container Definition with text variables replaced at runtime

The 'Long and Short Text' tab is selected. It shows the 'Message title' section with two text boxes:

- Short Text (SMS, Pager): Machine no.&MACHINEID& (&LOCATION&) damaged
- Long Text (E-Mail, Fax): Machine no.&MACHINEID& (&LOCATION&) of type &MACHINETYPE& is damaged.

SMS short text displayed in the alert inbox; Long text in the detail view of the inbox.

The 'Optional Subseq.Activities' tab is selected. It shows a table of subsequent activities and a URL field.

Description of Subsequent Activity	Type
Order spare parts	1
Check supply chain	1

URL of Subsequent Activity: <http://www.mycompany.com/b2b>

URL-based subsequent activities

Motivation

What Is Alert Management?

Example Demonstration

Alert Category Definition

Recipient Assignment

Triggering Alerts

Delivery Channels

System Configuration

Summary

Administrator
Fixed recipients
(users and roles)

Application
Runtime
determination
of recipients

Subscription
Holders of a subscription
role can subscribe to a
category in the alert inbox

Alert recipients



Motivation

What Is Alert Management?

Example Demonstration

Alert Category Definition

Recipient Assignment

Triggering Alerts

Delivery Channels

System Configuration

Summary

Alerts can be triggered either by using one of the following frameworks

- Event in the **Business Object Repository**
 - ◆ Define event linkage with transaction SWE2
 - ◆ Receiver function module: SALRT_CREATE_VIA_EVENT
- Action of the **Post Processing Framework (PPF)**
- Auto-Reaction Method in **CCMS** (since 6.40)
- Triggering as a step in a **SAP Workflow**

or by direct call of the function module SALRT_CREATE_API.

Triggering an Alert (2) - Event Linkage

The screenshot displays the SAP SWE2 transaction code interface for configuring event linkage. The main window title is "New Entries: Details of Added Entries". The configuration is as follows:

Object Category	BOR Object Type
Object Type	PURCHASE_ORDER
Event	CANCELLED
Receiver Type	PURCHASE_ORDER_CANCELLED

Linkage Setting (Event Receiver)

Receiver Call	Function Module
Receiver Function Module	SALRT_CREATE_VIA_EVENT
Check Function Module	CHECK_CUSTOMER_PRIORITY
Receiver Type Function Module	
Destination of Receiver	

Linkage Activated
 Enable Event Queue

Behavior Upon Error Feedback	System presetting
Receiver Status	No errors

Transaction code SWE2

Business Object Type, Event of Business Object Type, Alert Category (Receiver Type)

Pre-Defined Function Module

Additional Checks before triggering the alert (e.g. check for important customers)

U6B (1) (800) | Is0095 | INS

Triggering an Alert (3) - Post Processing Framework

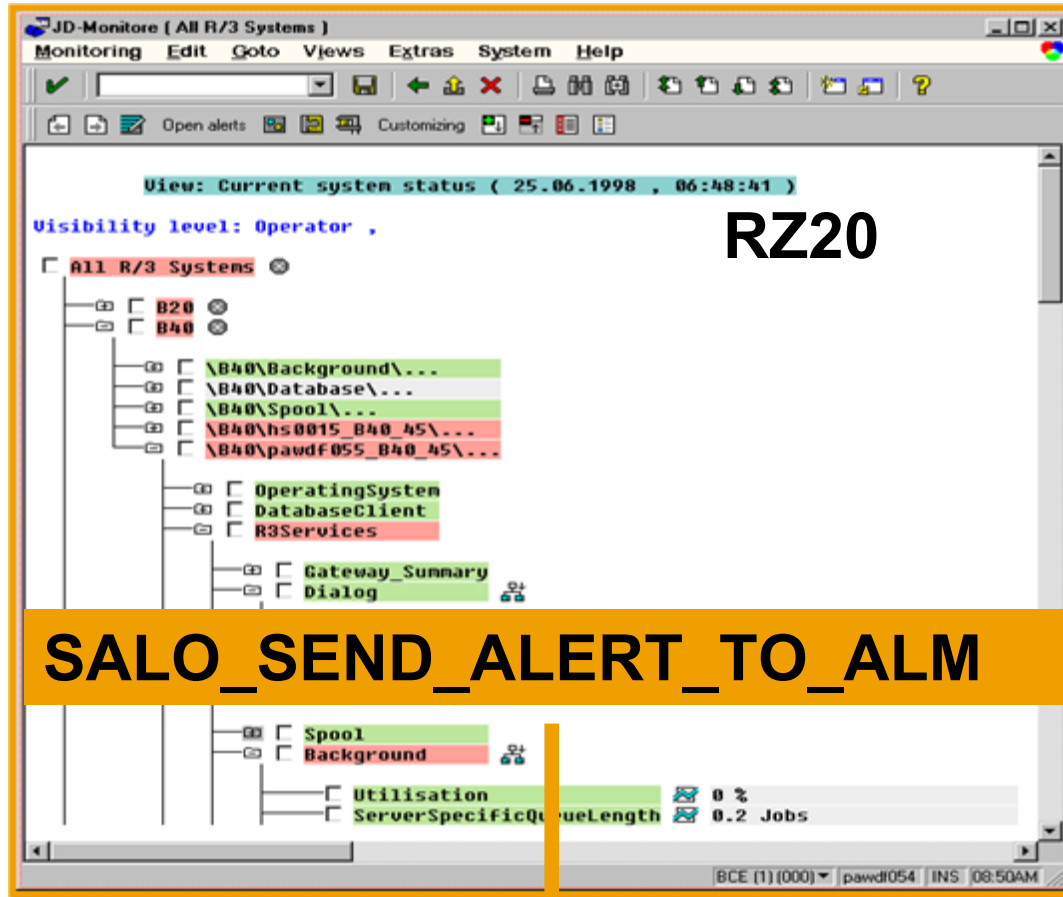
The screenshot shows the SAP 'Conditions for Actions: Display' window. The main table lists action definitions with the following data:

Action Definition	No.	Processing Type	Processing
Action Uses Conditions with Business AddIn	1	Method call	BOOK_SALE_SPECIAL
Action Uses Conditions with Business AddIn	1	Method call	Create new book
Book damaged	1	Alert	Alerts that are Triggered by the
Book sales	1	Mail	Mail Output
Book sales	2	External Communication	Standard Communication Meth
File...	1	Mail	Mail Output

Callouts in the image point to the following elements:

- Context:** Points to the 'Book context' entry in the 'Scheduling of Actions' tree on the left.
- Transaction code SPPFCADM:** Points to the top right corner of the window.
- Action and Processing Type:** Points to the 'Book damaged' row in the main table.

Auto-Reaction Method in CCMS (since 6.40)



CALL FUNCTION 'SALRT_CREATE_API'

EXPORTING

ip_category = name of alert category

* **IP_EXPIRATION_TIME** = time of expiration

* **IP_EXPIRATION_DATE** = date of expiration

* **IP_WAIT_ON_COMMIT** = wait for commit work or send alert immediately

* **IP_APPLICATION_GUID** = GUID of raising application (since 6.40)

* **TABLES**

* **IT_RECIPIENTS** = dynamic alert recipients (SAP User)

* **IT_EXT_RECIPIENTS** = dynamic alert recipients (address strings)

* **IT_EXT_ADDR** = dynamic alert recipients (address references)

* **IT_ACTIVITIES** = dynamic subsequent activities (URLs)

* **IT_CONTAINER** = name/value pairs (used variables in texts)

Motivation

What Is Alert Management?

Example Demonstration

Alert Category Definition

Recipient Assignment

Triggering Alerts

Delivery Channels

System Configuration

Summary

Alert Inbox in the EP Universal Worklist

Universal Worklist - SAP Enterprise Portal 6.0 - Microsoft Internet Explorer provided by SAP IT

Collaboration | Search

Content Administration | User Administration | System Administration | Web Dynpro Demo | Home

Universal Worklist | Company | Work | Teams | Documents | Mail & Calendar | Portal Information

Universal Worklist | History | Back | Forward

Universal Worklist

Tasks | Alerts (3 Unread / 9) | Notifications | Tracking

Acknowledge | Refresh | New Task | Personalize View | Filter

<input checked="" type="checkbox"/>	Subject	Priority	Sent	Recipients	Expires	Category		
<input type="checkbox"/>	Machine no. B15384347465 (BAC) of type Elevator is damaged.	Very High	Jul 27, 2004 5:58 PM	alertadmin, alertadmin (2)	Jul 28, 2004 5:58 PM	Machine damage	2	
<input checked="" type="checkbox"/>	Machine no. 33-44 (CU30) of type Monitor is damaged.	Very High	Jul 27, 2004 5:55 PM	alertadmin, alertadmin (2)	Jul 28, 2004 5:55 PM	Machine damage	2	
<input type="checkbox"/>	Machine no. 12233-987 (CU30) of type Phone is damaged.	Very High	Jul 27, 2004 5:54 PM	alertadmin, alertadmin (2)	Jul 28, 2004 5:54 PM	Machine damage	2	
<input type="checkbox"/>	Machine no. p555 (AE28) of type Laser printer is damaged.	Very High	Jul 27, 2004 3:52 PM	alertadmin, alertadmin (2)	Jul 28, 2004 3:52 PM	Machine damage	2	

1-4 / 4

Machine no. 33-44 (CU30) of type Monitor is damaged.

Acknowledge | Forward | Configuration for Alerts | Show All of This Type

Priority: Very High
 Description: Machine no.33-44 (CU30) of type Monitor is damaged because of:
 Imploded at 18:02:19
 Sent: Jul 27, 2004 5:55 PM
 Expires: Jul 28, 2004 5:55 PM
 Activities (2):
[Order spare parts](#)
[Check supply chain](#)

Local intranet

Alert Inbox As BSP (1) - Alert List

Confirm alert

Forward alert

Alertin

Refresh Confirm Forward Subscription Personalization

Category	Status	Description	Number of Recipients	Created on	Time created
Machine damage	✉	Machine no.p555 (AE28) damaged	1	27.07.2004	15:46
Machine damage	✉	Machine no.< MACHINEID not found> (< LOCATION no	1	27.07.2004	15:49
Machine damage	✉	Machine no.p555 (AE28) damaged	2	27.07.2004	15:52
Machine damage	✉	Machine no.12233-987 (CU30) damaged	2	27.07.2004	17:54
Machine damage	✉	Machine no.33-44 (CU30) damaged	2	27.07.2004	17:55
Machine damage	✉	Machine no.B15384347465 (BAC) damaged	2	27.07.2004	17:58

Line 1 of 6

Short Text Long Text Recipient Follow-On Activities

Machine no.p555 (AE28) of type Laser printer is damaged because of:
Toner empty at 18:56:35

Long text

Show recipients of this alert

Subsequent activities (URLs)

Follow-On Activities

- [Order spare parts](#)
- [Check supply chain](#)

Line 1 of 2



Alert Inbox As BSP (2) – Personalization

- Alerts are always delivered into the Alert Inbox
- Additionally, they can be sent time-dependently or time-independently via mail, SMS/pager, or fax

Personalization of Alert Delivery

Save Reset

Setting for Substitute Rule

Forward to Substitute
Substitute User does not exist

Variants for Alert Delivery

Time-Independent Delivery
 Time-Dependent Delivery

Time-Dependent Delivery

Factory Calendar
Time Zone

Create Delete

	Working Day	From	To	Delivery Type
<input type="checkbox"/>	Working Day	08:00	19:00	Mail
<input type="checkbox"/>	Working Day	19:00	24:00	SMS

Line 1 of 2

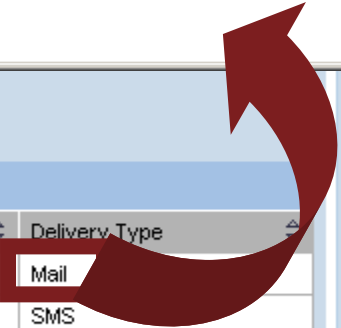
Frm SUPPORT [SUPPORT@000.bce.r3.sap-ag.de] Sent : Mo 26.07.2004 17:45
To M
Subject Machine no.p555.(AE28)_damaged

Alert ID: ##00039##

Machine no.p555 (AE28) of type Laser printer is damaged because of:
Toner empty at 17:45:18

Possible Subsequent Activities

Order spare parts <http://www.mycompany.com/b2b>
Check supply chain <http://www.mycompany.com/scm>



- Administrator must allow Subscribe/Unsubscribe
- Role can be assigned to Category. Each User within the role can subscribe or unsubscribe to this category

Subscription of Alert Categories

Subscribe Unsubscribe

	Subscribed	Category	Classification
<input type="checkbox"/>		Update alerts	CCMS ALERTS
<input type="checkbox"/>		Alert if system J2E is not available	CCMS ALERTS
<input type="checkbox"/>		Alerts that are triggered by the Process	Webflow Alerts

Line 1 of 3

**Subscribe/
unsubscribe
as BSP**

■ Alert confirmation by e-mail, SMS, and in the alert inbox

- “I have received and read the message!”
- “Do not escalate this message any further!”
- “Do not show this alert in my inbox again”

■ Escalation

To superior or system administrator
in case of a missing confirmation

■ Subsequent activities

■ URL-based navigation into an
application, such as error handling
or initiating necessary actions

■ Substitute determination

...



Motivation

What Is Alert Management?

Example Demonstration

Alert Category Definition

Recipient Assignment

Triggering Alerts

Delivery Channels

System Configuration

Summary

Landscape Configuration – Central Alert Server

The screenshot shows the SAP configuration interface for the Central Alert Server. The window title is "Display View 'Alerts: Configuration': Details". The interface is divided into several sections:

- Processing:** Contains radio buttons for "Internal Processing" (selected), "SMTP Forwarding as XML", and "HTTP Forwarding as XML". There are input fields for "E-Mail Address" and "HTTP Destination".
- Personalization:** Contains a checkbox for "Offer XML in Personalization" (unchecked). It has radio buttons for "XML Forwarding to E-Mail Address" (selected) and "XML Forwarding to HTTP Destination". There are input fields for "E-Mail Address" and "HTTP Destination".
- XML Formatting:** Contains checkboxes for "Category Check", "Add Recipients", "Add Texts", and "Add Subsequent Activities".
- Inbound Processing:** Contains a "User" field with the value "ALERT".
- Status Handling with Mails:** Contains a table with two rows: "Statuses Requested" and "Status By Mail", both with the value "No Status Is to Be Returned".
- Logging:** Contains a checked checkbox for "Write log".

At the bottom, a status bar shows "One entry chosen".

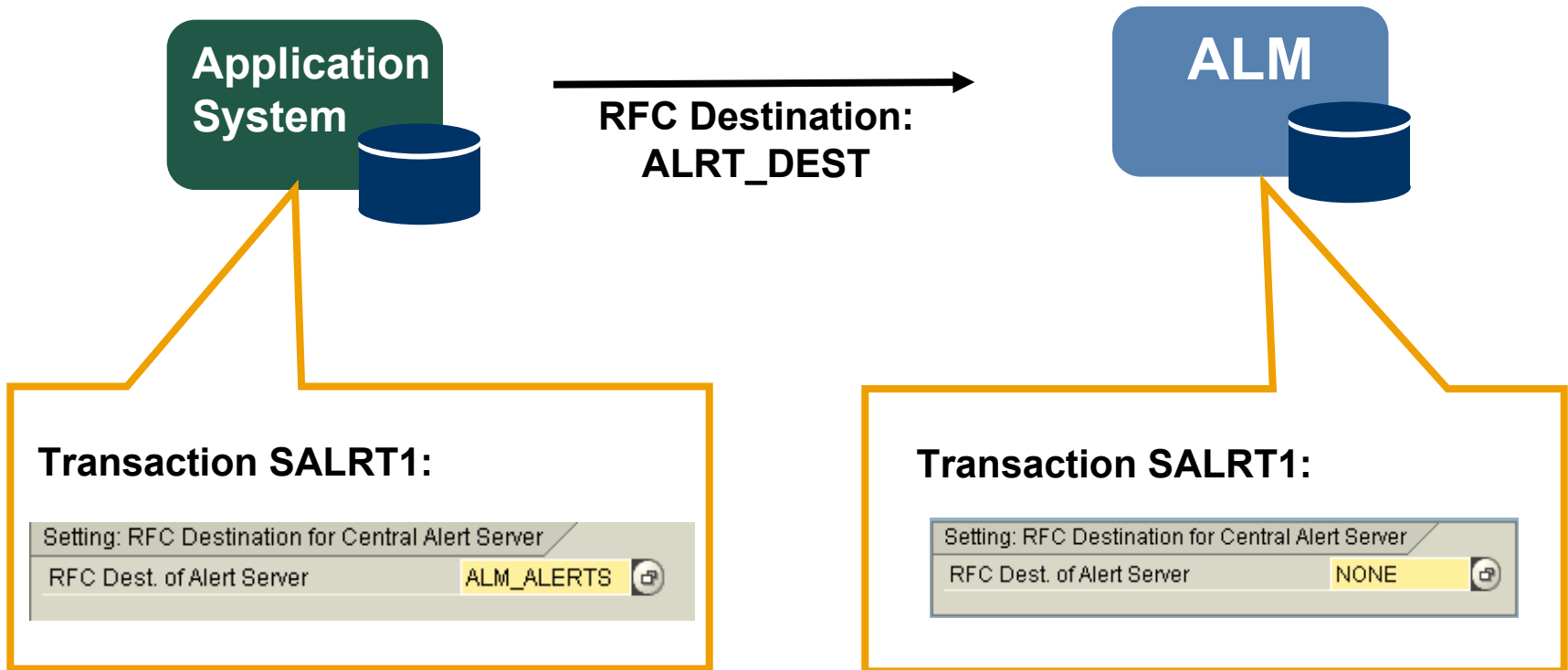
Alerts are handled internally (handling of e-mail, SMS, alert inbox) or alerts are routed to a partner product (via SMTP or HTTP)

Offering users to send XML files to an external system

Definition of the XML document structure

Inbound processing for alert confirmation via e-mail (and SMS)

RFC-Destination to the Central ALM Server



Ways to Confirm Alerts

Alerts can be confirmed:

- Via API

- In the Alert Inbox (transaction ALRTINBOX, UWL in EP, or an application into which the Alert Inbox is integrated)

- By simply replying to received e-mail/SMS => Inbound Processing:

The screenshot shows the SAP transaction SO50, titled "Exit Rules for Inbound Processing (Maintenance Mode)". The interface includes a menu bar (Bearbeiten, System, Hilfe), a toolbar, and a table of exit rules. Three callouts provide additional context:

- Transaction code SO50**: Points to the title bar of the transaction window.
- E-mail address of Alert User in configuration**: Points to the "Internet Mail" column of the table, specifically highlighting the address `sapalert@BCE.R3.SAP-AG.DE`.
- Handler for incoming e-mail provided by Alert Management**: Points to the "Exit Rule" column of the table, specifically highlighting the value `CL_ALERT_CONFIRM_BY_MAIL`.

Exit Rule	Exit Rule	Exit Rule	Exit Rule	Exit Rule
In	XLS	CL_IBND_EXIT_1		7
In	VBS	CL_IBND_EXIT_1		
In	RTF	CL_IBND_EXIT_2		
In	*	CL_INBOUND_TES		
In	ICS	CL_APPOINTMENT		
In	*	CL_ALERT_CONFII		
In	*	CL_ALERT_CONFII		
Internet Mail				
Internet Mail				20
Internet Mail				21

As of SAP Web AS 6.20, it is possible to send short messages/pager messages via a public Web service:

- Communication with a service provider via Internet protocol HTTP
- No additional hardware needed for an SMS/pager gateway
- Customer pays only for the amount of usage
- The picture shows the example of a new HTTP node in SAPconnect (administration of external communication)

The screenshot shows the 'SAPconnect: General node data' dialog box. The 'General Information' tab is active, showing the following details:

- Nodes:** UNIMOB
- Description:** Unimobile TechEd Bremen
- Maximum waiting time for repeat send attempt procedure:** Hours/minutes: /
- Node in use

The 'HTTP Connection' tab is also visible, showing the following configuration:

- URL:** `http://partnerweb.unimobile.com/partner/api41/chkdevsndme?partner_id=3372&partner_ap=<password>&partner_phone=<reci_addr>&from=<orig_name>&fromaddr=<orig_addr>&msgin=<message>`
- Insert SAPconn. Variables:** Recipient Address, Password, Sender Address, Message Text, Sender Name
- Password:** ***** / *****
- Maximum Length:** 140 Bytes
- Convert message text into other character set?:** Yes No
- Character Set:** 1100 SAP internal, like ISO 8859-1 (00697/00819)
- Code:** No Coding
- HTTP Response:** If the HTTP response contains the following text: ERR. Interpret the HTTP response as indicating that: An error occurred during transfer to provider, Message was successfully transferred to provider
- Supported address types:** Pager (SMS) Set
- Last changed by:** BECKERJO On 20.09.2002

Motivation

What Is Alert Management?

Example Demonstration

Alert Category Definition

Recipient Assignment

Triggering Alerts

Delivery Channels

System Configuration

Summary

Speed Up Your Business with Alert Management!




- Active delivery of critical information
- Support for different media including e-mail, Fax, WAP, SMS, Web
- Personalized alert delivery and content
- Alert inbox for an enterprise portal
- Tracking whether the information has been received and escalation procedure
- Connection and integration with third-party communication systems
- ...

Further Information



→ Public Web:
www.sap.com → Solutions → Technology

→ Service Marketplace:
<http://service.sap.com>
Use aliases: /alert, /communication


→ Intranet / Twiky (internal only)
[Implementation Guide](#)
[I-Tutor Sessions](#)