

## **Chapter 4. SAP EM System**

Now that we have described in detail how we get information on Application Object Types and Event Types to SAP EM, we can tackle how this information is consumed and formatted as useful information.

## 4.1 The technical Jargon

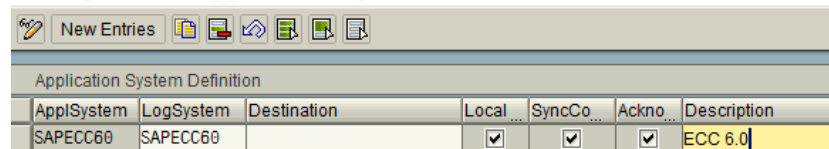
Before we get in to the nuts and bolts of the SAP EM system there are a few topics to discuss on the technical side.

### 4.1.1 Communicating with the application system

SAP EM can communicate with several Application Systems at any one time. It can receive events from external 3<sup>rd</sup> party application systems as well as internal SAP systems.

For each SAP Application System define an RFC destination and logical system relating to it.

#### *Change View "Application System Definition": Overview*



ApplSystem	LogSystem	Destination	Local...	SyncCo...	Ackno...	Description
SAPECC60	SAPECC60		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ECC 6.0

*Figure 28: Application System Definition*

In Figure 28 I have configured an SAP Application System that sits locally on the same machine as the SAP EM system (notice that the destination field is blank). In addition I have specified it as a synchronous connection (only advisable for test system to easy debugging). I have checked the Acknowledge checkbox which means that an acknowledgement will be sent back to the Application System on the posting to SAP EM. Once an EH is posted the function BAPI\_TRKOBJ\_ACKNSTATUS is called to update the AS with the status (in table /SAPTRX/AOTREF). This checkbox has not relevance for 3<sup>rd</sup> party Application Systems.

Following these steps you can go ahead and map in the parameters to be received by the Application System.

Most of the configuration of SAP EM is independent of the Application System setup except for the mapping of parameters and event codes.

The parameters are dependent on the Application System from which they came from. E.g. A system could send a parameter called BUYER and SAP EM has PO\_BUYER as the corresponding parameter so we need to map the value stored in BUYER to the SAP EM value of PO\_BUYER. If we then have another Application System that sends us PURCHASE\_O\_BUYER as a parameter then we need to map the value in PURCHASE\_O\_BUYER to PO\_BUYER so that SAP EM only refers to the parameter as PO\_BUYER. Using this technique allows the SAP EM user to always compare apples with apples when talking about parameters from all the different Application Systems.

Similarly we map whatever the partner thinks the event is to our interpretation of that event. E.g. Regarding a Post Goods Issue event a partner may send ISSUE as the event id and we map it to PGI. The next Application System sends PostGI as the event id and we again map it to PGI. Thus we always talk about PGI in our system even though all our partners have different interpretations for the same event, yet mean the same thing.

#### **4.1.2 Sizing**

Sizing a server to handle the load of SAP EM is important. The potential is definitely there to run huge amounts of data through SAP EM in a very short amount of time.

Sizing is impacted by both business and technology components. I.e. The number of users and number of

processes covered will have an impact on the size of machine required.

The SAP Standard Application Benchmarks and scalability tests located at <http://www.sap.com/benchmark> can be used to determine sizing detail.

Sizing for SAP EM needs to take into account Event Handlers, Event Messages and volume thereof.

Memory is dependent on the size of the packages containing event messages.

Areas that relate to larger volumes of disk space being utilized are:

- Archiving and deleting residence times. The larger the residence time the larger the disk space requirement
- If logging of the EH and EVM is enabled then huge amounts of space is stored and thus needed in terms of GB of disk space.

### **4.2 Event Handler**

The Event Handler (EH) is the object against which the events are posted. It is the brains of the SAP EM operation... Without it we get no status management, no parameters, no SAP NetWeaver BI extraction and no extension fields.

#### **4.2.1 EH Type**

The Event Handler Type (EHT) is defined in customizing and is directly related to the Application Object Type (AOT) from the application system. The EHT is used to link to related configuration that describes how to react when an Event Handler is created.

EvtHandler Type	LTL_DELIV	Deliveries in LTL Shipment (Visib. Scenario)
<b>Event Handler Types</b>		
Bus. Proc. Type	ESC_SHIPMT Shipment (SAP R/3 Enterprise)	
Priority	1	
Condition	SHIP_TYPE	Deliveries in LTL Shipment - Shipment Type = '0002'
Rule Set	LTL_RULES	Rule set for Deliveries in LTL Shipment
Stat.Attr.Prof.	LTL_STATUS	Status Profile for Deliveries in LTL Shipment
EE Profile	LTL_EXP_EVENTS	Expected Events Profile for Deliveries in LTL Shipment
<input type="checkbox"/> Unexpected Event Code Check		
Auth. Prof. ID		
EH Upd.Acty 1		
EH Upd.Acty 2		
Repro.Sort Rule		
Ext. Table ID	DELIV_EXTENSION	Deliveries in LTL Shipment
Evm. Ext. Table ID		
BW Profile	DELIV_BW	BW Profile for Deliveries in LTL Shipment
<input type="checkbox"/> Change Doc. Activation		
Log EH Posting	3 Verbose - Details of Each Process	
Log Msg. Proc.	3 Verbose - Details of Each Process	
Log Ext. Updates	3 Verbose - Details of Each Process	
<input type="checkbox"/> Disable Expected Event Historical Data		
<input type="checkbox"/> Disable Measurement Historical Data		
<input type="checkbox"/> Disable Status Attribute Historical Data		

*Figure 29: Event Handler Type Definition*

This related configuration includes the following:

- Event Handler Set – A Grouping of Event Handlers
- Rule Set – Set of follow on activities to be executed once an event is received
- Authorization Profile – A definition of parameters to be used for authorization purposes
- Expected Event Profile – List of expected events when an EH is created or changed. If an expected event is not received then the follow on activities related to the event

are executed by the overdue monitor. E.g. If the Delivery PGI does not happen at the expected time then the overdue monitor kicks in and flags the delivery PGI as overdue and subsequently can be used to set the status to Goods Issue Late, via a follow on activity.

- Status Attribute Profile – The related status' an EH can have during change and creation
- Update activities
- Event Handler and Event Message Extensions – Links to system parameters to be stored at the database level in a custom extension table
- BW Profile – List of fields and values to be extracted to SAP NetWeaver BI
- Change document activation
- Log activation
- Disabling of historical data

### **Event Handler Type Condition**

An Event Handler Type condition can be set which determines whether or not an Event Handler should be created when a relevant Application Object Type (AOT) is sent from an Application System. E.g. In your application system you define all sales orders to be relevant but in SAP EM you have 2 Event Handler Types, 1 with the condition to check if the Sales Order is a customer order and the second condition checks if the Sales Order is a return order, thus each are tracked separately.

A condition can either be developed using a template function module or using the standard condition editor.