

Intersession Events

XStep Café
April 01, 2015

Public

Summer Season in Germany

Exchange of Events in PP-PI-PMA Applications

Introduction

Various PP-PI-PMA applications already exchange events

- Usage of Manufacturing Data Access (MDA)
 - Broadcast values
 - Read and write OPC data points/tags etc.
- Usage of Intersession Event framework (ISE) by MDA
- Various MDA Services in SAP Standard
 - Definition of custom MDA service possible
 - BAdI SCM_CMX_DA_SRV (package CMX_DA)

Legend (MDA Services)

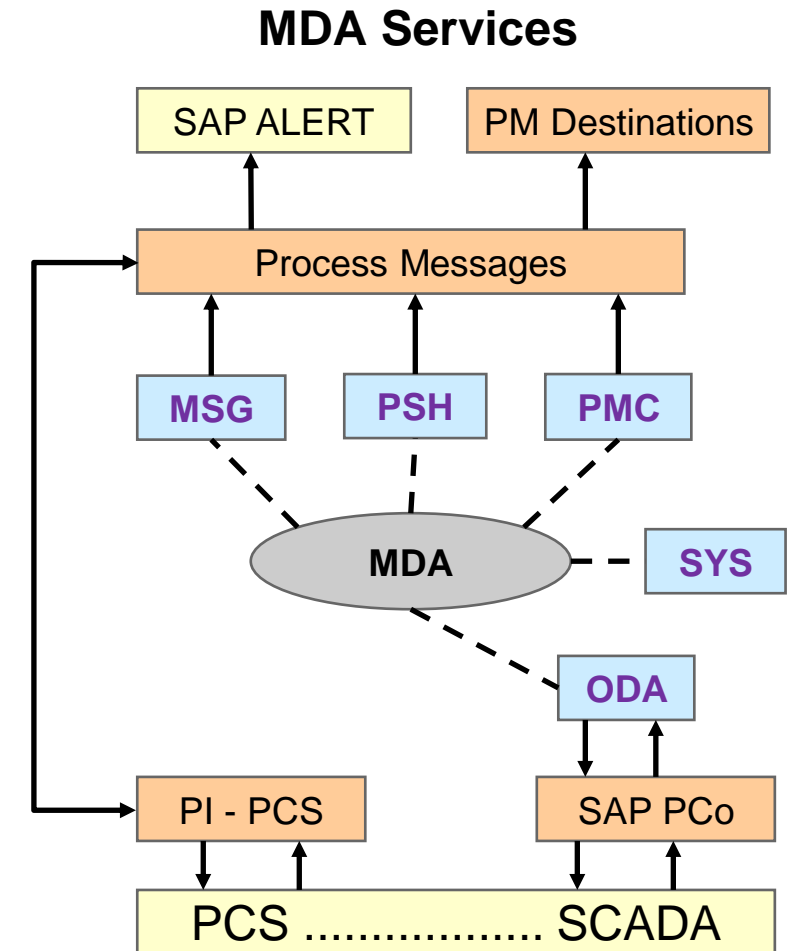
MSG: Process Messages

PSH: PI Sheets

PMC: Cockpits

SYS: System Data

ODA: OPC Data Access



Exchange of Events in PP-PI-PMA Applications

Challenges

Customer reported problems with stability and performance

- High workload peaks observed, caused by ISE framework
 - Reported by non PP-PI-PMA application that uses ISE
- Short dumps occur when MDA functions are used
- Permanent blocking of work processes by RFC function module (ISE)
 - Seems to run in an endless loop – why?

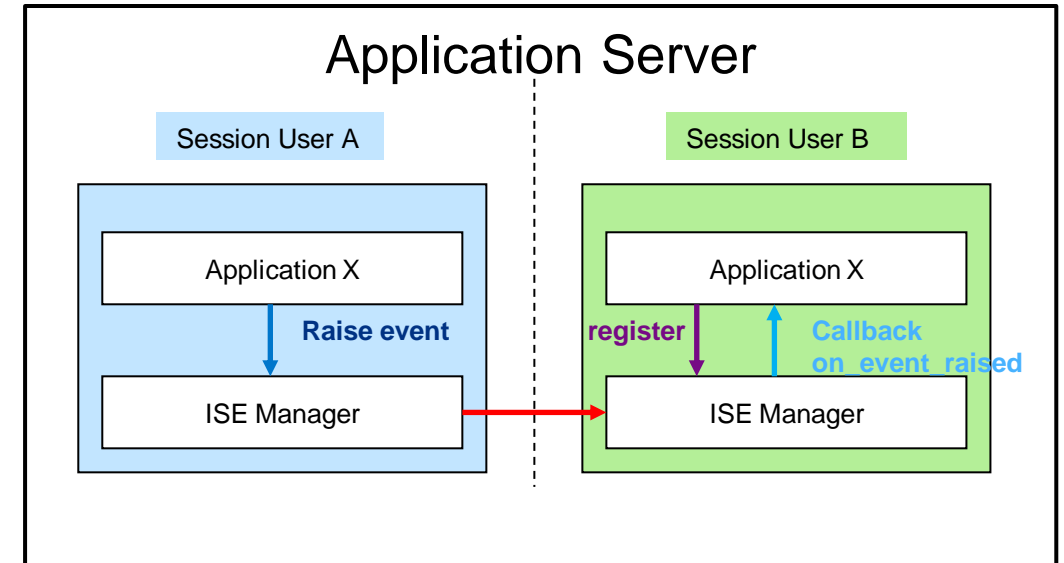
Consequences

- Renovation of ISE framework, shipped with SAP notes
- Share insights on ISE framework (this session)

Interession Events (ISE): Basic Processes

Processing ISE Events

- Application started (two users)
- User B: **Registration** of application for receiving events
- User A: Application **fires event**
 - Event data is **added to event queue** of application B (shared buffer)
- User B: Event is detected and processed by the application
 - **Callback** from ISE Manager to application

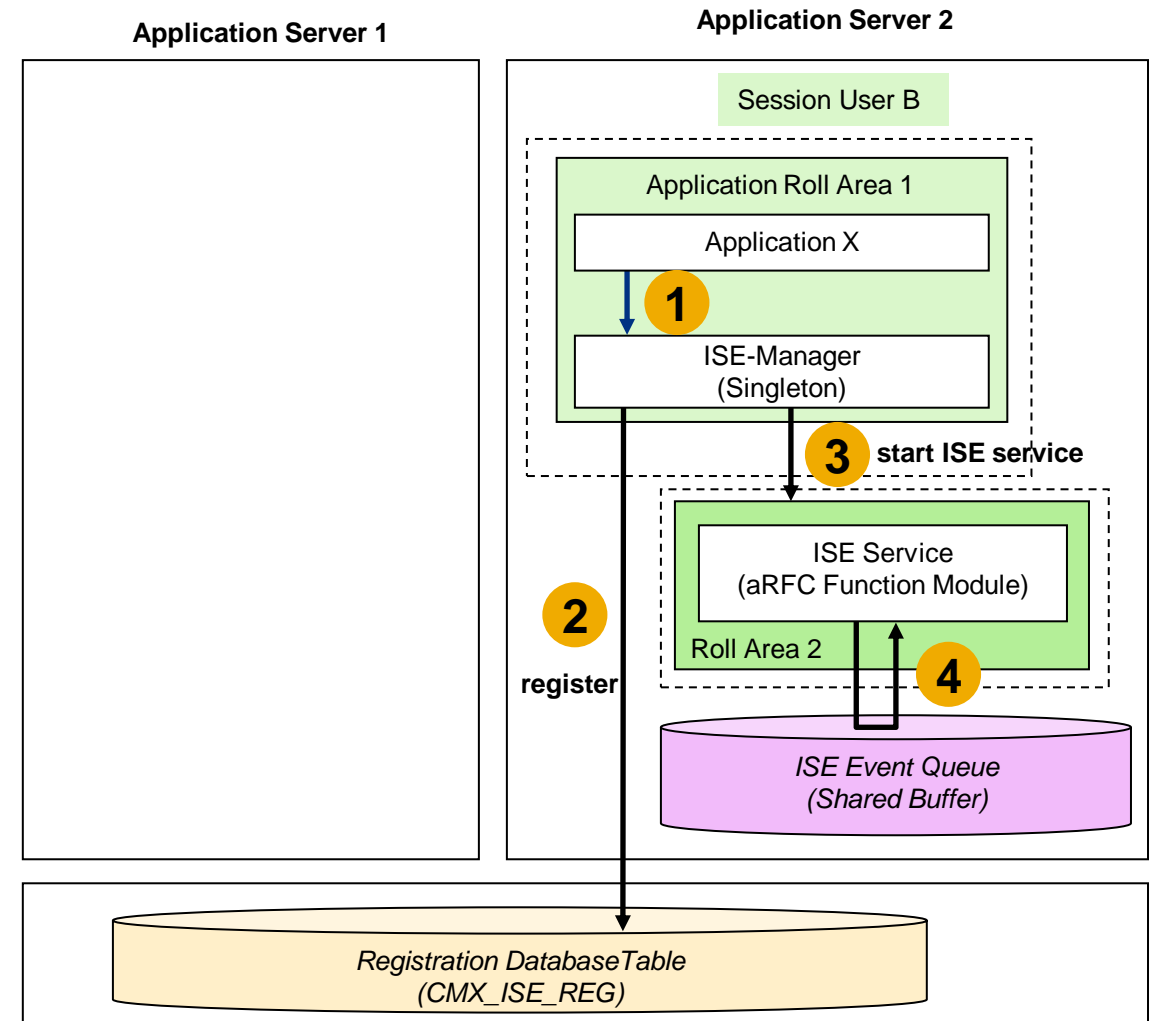


Interession Events (ISE): Registration

Listening to ISE Events

Registration of application X on ISE event

- Call REGISTER method of ISE manager
 - Transfer event class and event key
- ISE manager stores registration in DB table
 - System-wide access to registration
- ISE manager starts ISE service
 - ISE service = asynchronous RFC
- ISE service checks the ISE event periodically

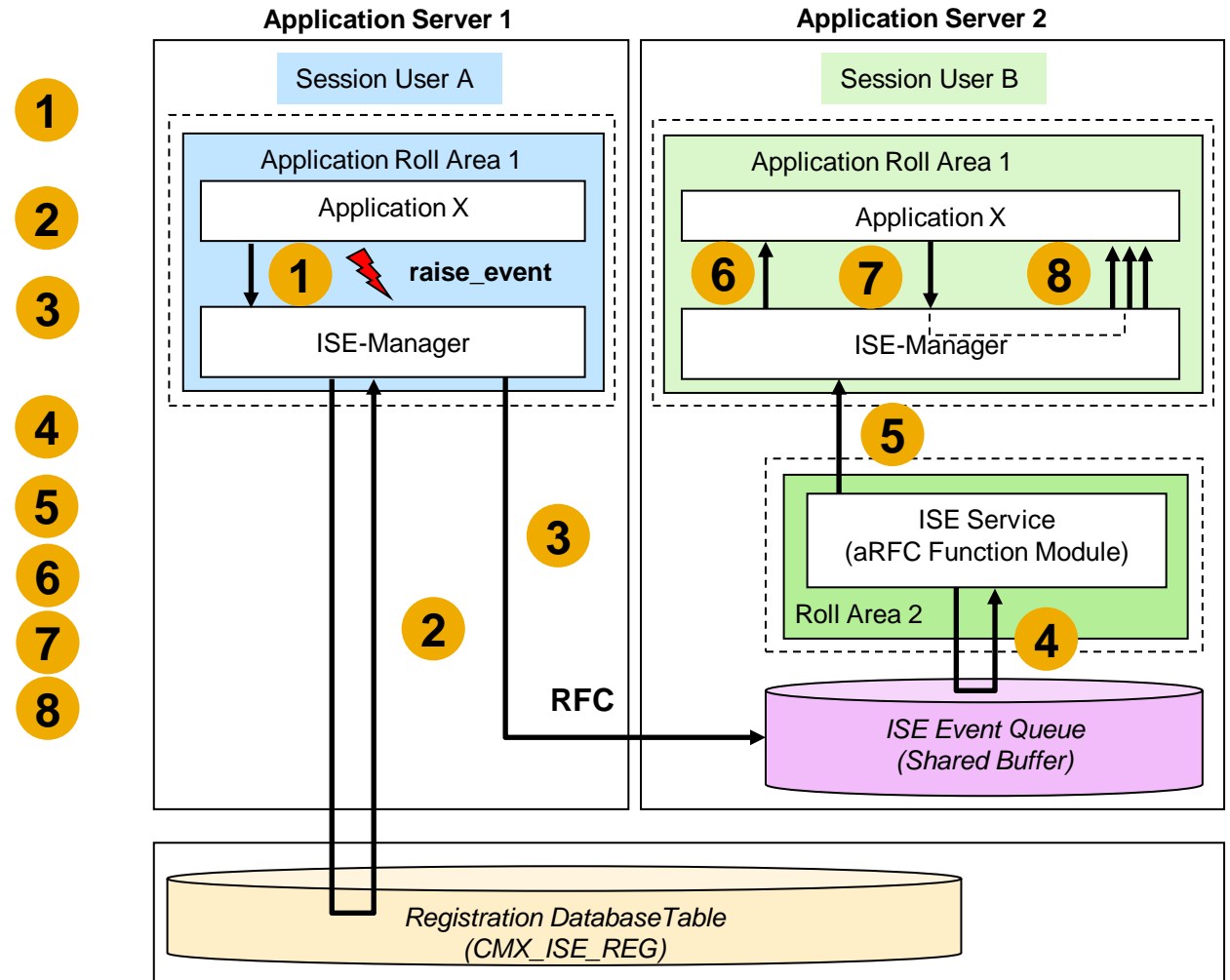


Intersession Events (ISE): Process Events

Raising and Receiving ISE Events

Raise and Process ISE event

- Application X raises ISE event (session user A)
- ISE manager read registration DB to identify event listeners
- ISE event listener found
 - Add event to ISE event queue (session user B)
- ISE service (aRFC) detects ISE event
- ISE service stopped, returns to (parent) application
- ISE manager triggers PBO/PAI processing
- Application starts distribution of ISE events
- Events are distributed to registered event handler



Intersession Events (ISE)

Demo

Interession Events (ISE)

Additional Information

ISE Source Coding

- Package CMX_ISE

Relevant SAP notes

- [2131657 - Performance problems with regard to interession events \(ISE\)](#)
- [2133793 - Interession eventing: Performance improvement \(subsequent note\)](#)
- [2136067 - Interession eventing: No manual read of ISE event queue](#)
- [2137408 - Interession events \(ISE\): Cleanup of shared buffer](#)

SAP Library

- [Manufacturing Data Access](#)

Miscellaneous

Industry 4.0

- Technical and Operational Solutions for Industry 4.0 in ERP Systems

Increasing Size of PI Sheet Database Tables

- Prominent: POC_DB_VALUE
- Implement SAP note 1944659 - Performance improvement with PI-Sheet
 - Error cause: Missing reset of buffer tables during sending of control recipes



Thank you