Process-Oriented Technical Publications - Experiences, Challenges & Benefits

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◘ **Introduction**

◘ **Experiences during authoring**

◘ **Experiences during use**

◘ **Challenges**

◘ **Benefits & outlook**

Introduction - motivation

◘ Maintenance technicians often are in search of adequate information

◘ We want to provide a continuous guideline for maintenance processes

◘ We want to move away from static behaviour and towards reactive technical publications

◘ S1000D Issue 2.3 initially defined process data modules; issues 4.x refined them

◘ Industrial usage has been possible for years, but coverage of in-service products is poor

Introduction – framework conditions

◘ End-to-end maintenance process covered with fault isolation – visual inspection – remove – install – test activities ➡

◘ Use case implemented by a set of process data modules

◘ No hybrid architecture comprising process and conventional data modules (reference to IETP for In-Service Support – an innovative solution)

◘ Test with industry-internal maintenance technicians
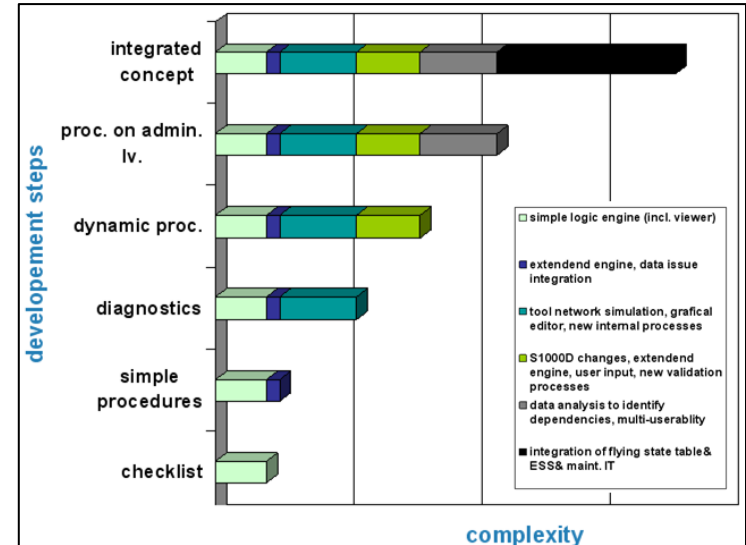
Experiences during authoring 1)

- ◘ Commercial authoring tools still have potential for optimisation/maturity

- ◘ Additional competencies required, e.g. for process decomposition or creation of expressions
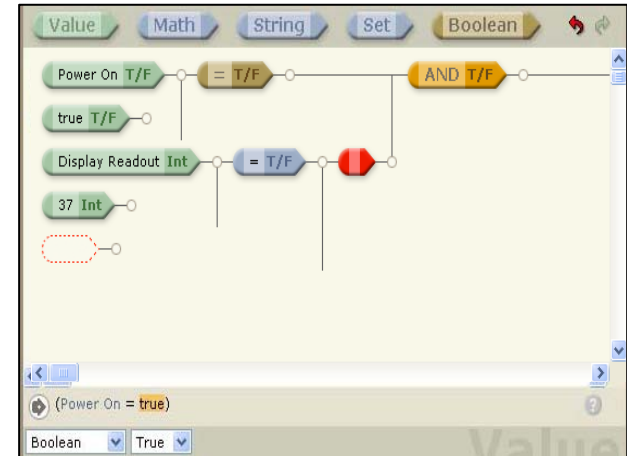
- ◘ A huge quantity of process branches develops very quickly – adequate definition of process DM granularity is essential
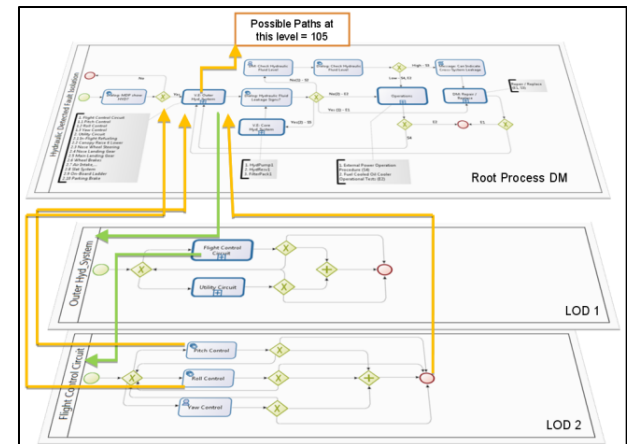
Experiences during authoring 2)

◘ Difficult to keep the integrity of the overall process logic

◘ Balancing of straight vs. flexible processes including lots of user dialogue

◘ Depending on organisation – with process DM creation, an author can quickly leave his area of responsibility as process ≠ local procedure
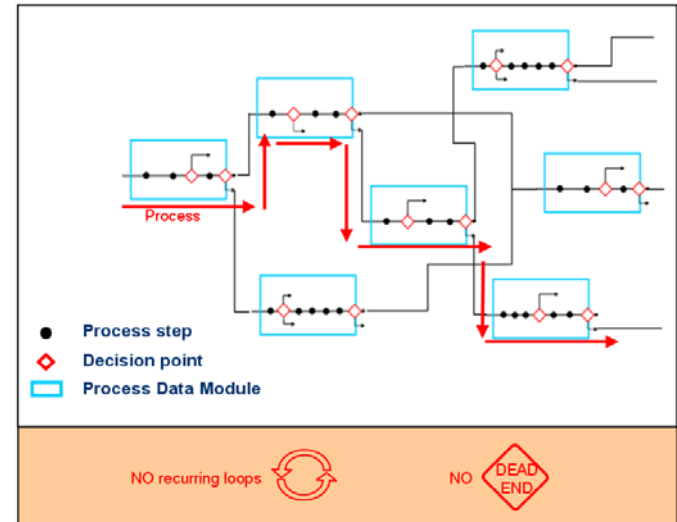
Experiences during use 1)

◘ Implementation on a tablet PC

◘ The less experienced a maintenance technician is, the more he accepts the benefits of process orientation

◘ The automatic logging of process steps is widely accepted by all users

◘ Graphical process navigation/view capability is vital

Experiences during use 2)

�’◻ Reactivity to unexpected failures is difficult – interrupt running process and execute new process BUT take account of steps already executed

◻ Reusability of designed processes is difficult

◻ Coupling of experience DBs highly recommended to influence sort sequence in a maintenance process automatically (e.g. fault isolation)

◻ Experienced users want to decide on their own on e.g. which test processes to execute

◻ Integration of process-oriented Tech Pub system to other systems e.g. work planning or warehousing is recommended
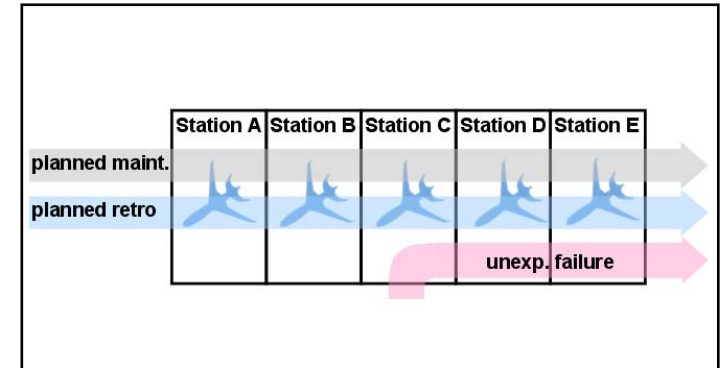
Challenges

- Moving to process orientation may mean that not only authors leave their defined areas of responsibility – validation and certification authorities maybe also

- Creation of a process decomposition concept – branch control, reusability, determinateness of overall process

- Additional software (functionality) required – e.g. logic simulation for a network of process DMs, process branch control

- Management of multiple users not yet sufficiently supported by current process DM schema

- Other ILS implications, e.g. process-oriented LSA?

Benefits & Outlook

◘ Benefits

Provide a single thread with no information breaks, reduce searching time, improve security of the maintenance process, automate logging of work performed, collect, keep and analyse feedback from maintenance technicians

◘ Outlook

Additional preparation effort will add cost for creators – time will tell if customers will pay for the benefits of process-oriented technical publications.

In rolling out process-oriented technical publications, it is strongly advised that the complexity be limited and controlled by dealing with simple use-cases such as checklists, before extending incrementally to diagnostic processes at most (see slide 4)

Thank you
for your attention

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