PDF/SOLUTIONS™

Confidential Information

2025's User Meeting – Maestria

FRANCO Mathieu

May 6th 2025 (remote session)

2025 User Meeting – Maestria Agenda

1. **Maestria updates**
   - 7.8.4 release content
   - Versioning enhancements status
   - New option: OPC UA connectivity
   - Next Maestria enhancements

2. **BSM updates**
   - Application overview
   - Application demo (15 min)
   - Development status

2025 User Meeting – Maestria Agenda

1. **Maestria updates**
   - **7.8.4 release content**
   - Versioning enhancements status
   - New option: OPC UA connectivity
   - Next Maestria enhancements
2. **BSM updates**
   - Application overview
   - Application demo (15 min)
   - Development status

Maestria 7.8.4 release content (delivered Jan. 2025)

- **Distributed components updated (PCE, PCA, PCB, IDE, PCM)**

- **Windows Server 2022 officially supported**

- **RLM licensing system supported**

  – FlexLM is still supported

  – RLM system more stable than FlexLM (see next PCE section)

  – RLM system is used by other PDF products (Exensio, etc) permitting unique license server

  – A smooth migration from FlexLM to RLM is possible (possibility to switch by platform, or only the 7.8.4 components)

Maestria 7.8.4 release content (delivered Jan. 2025)

- **PCB specific updates:**

  - Optimizations related to versioning: merging some versioning operations and reducing operation calls (decrease x10)
  FDC robustness increase:
  - MSTR-7178 PCB creates a wrong Filters.sic file when selecting an empty strategy folder (missing AllDCTime window)
  - MSTR-6907 PCB should ask user confirmation before creating default strategy files when empty strategy folder is detected
  - MSTR-7124 PCB checks/updates the VariablesDictionary of Group level only (not Tool) when selecting a strategy in PCB treeview

- **PCA specific updates:**

  - MSTR-7338 The grouping legend added to the temporal and univariate charts exports is truncated if the group names are too long
  - MSTR-7062 Unable to display group colors in DCQV trend chart

- **PCE specific updates:**

  - OPC UA protocol supported in PCE (available as an option)
  - SMTP protocol now supports Authentication
  - Omron PLC FINS protocol officially supported
  Increase FDC robustness:
  - Random SBMgrSrv crashes + PCE crashing after 776 days of run => fixed when using RLM license type
  - ExternaPassThrough crash occurring very rarely
  - IDCM manages when the SelectControlStrategyConfiguration.sic file cannot be loaded (to avoid missing FDC)
  Other bug fixes:
  - [DAQFile] When a variable has no value in the trace file, other variables get empty in temporal chart

Note: 7.8.4 release is already deployed in production (~250 PCE instances)

2025 User Meeting – Maestria Agenda

1. **Maestria updates**
   - 7.8.4 release content
   - **Versioning enhancements status**
   - New option: OPC UA connectivity
   - Next Maestria enhancements
2. **BSM updates**
   - Application overview
   - Application demo (15 min)
   - Development status

Versioning enhancements

- **Rework done to increase stability and performances (X10+)**

  Stability increase:
  - Security checks added in the code around files accesses to prevent repository files corruption
  - Rework of the versioning repository : split by tool to limit a repo corruption to a tool instead of whole fab

  Performances increases:
  - Repository split by tool also enhances the performances
  - Server optimization: merge the IsStrategyVersioned + GetLastVersionNumber operations into a single GetStrategyInfo operation
  - Server optimization: merge the GetVersionsList and GetLastVersionNumber operations into a single GetVersionsListWithLast operation
  - PCB optimization: decrease the number of operation calls made by PCB when editing and saving a strategy

- **Development status:**
  - Versioning-svn18417 beta version provided to several sites in Jan. 2025
  - Two changes have been added since then (in version Versioning-svn18419):
    - Versioning server adaptation to support BSM (StrategyCommit XMLIE command from temp folder)
    - Stability increase: After a commit failure, server returns wring last version leading to strategy corrupted in the repository

- **Official version delivery planned for Q2 2025**

2025 User Meeting – Maestria Agenda

1. **Maestria updates**
   - 7.8.4 release content
   - Versioning enhancements status
   - **New option: OPC UA connectivity**
   - Next Maestria enhancements
2. **BSM updates**
   - Application overview
   - Application demo (15 min)
   - Development status

New option: OPC UA connectivity

- **OPC UA connectivity is now available, as an option (i.e. not part of M&S)**

- **A license is required for each connection (i.e. each DAQ_OPC driver instance)**

- **This connectivity can be used to collect additional data to existing tools, as an external sensor**

- **It can also be used to collect data on facilities (i.e. robots/sensors/PLCs) that are managing OPC UA protocol**

OPC UA connection example: additional data to existing PCE

TooIA PCE instance

Data Collection

SECS

OPC UA

OPC UA port

AD DAQ-SECS

AD DAQ-OPC

Merged data

MariaDB

pce
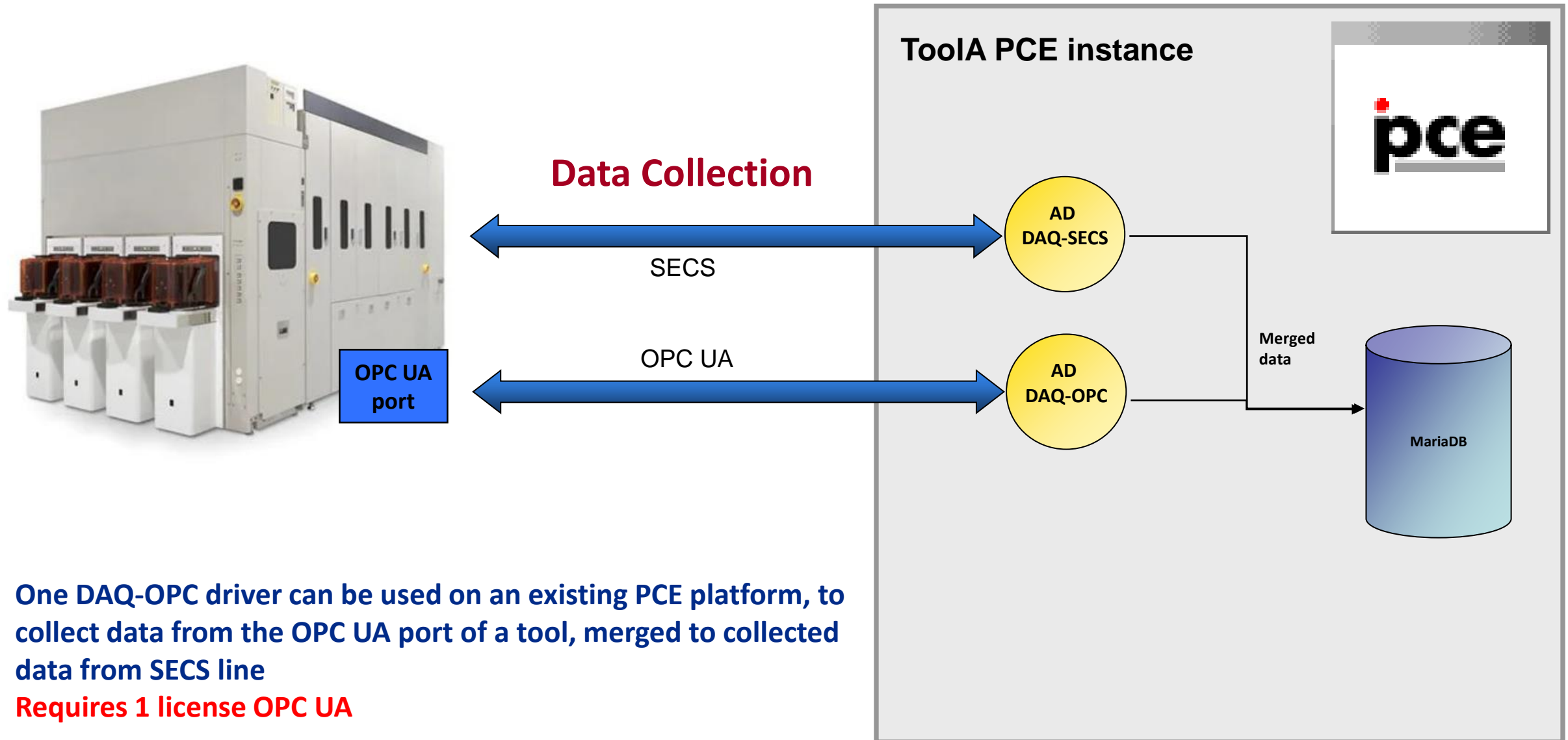
One DAQ-OPC driver can be used on an existing PCE platform, to collect data from the OPC UA port of a tool, merged to collected data from SECS line
Requires 1 license OPC UA

OPC UA connection example: additional data to existing PCE

Data Collection

SECS

OPC UA

TooIA PCE instance

AD DAQ-SECS

AD DAQ-OPC1

AD DAQ-OPC2

AD DAQ-OPC3

OPC UA port

Merged data

MariaDB

pce
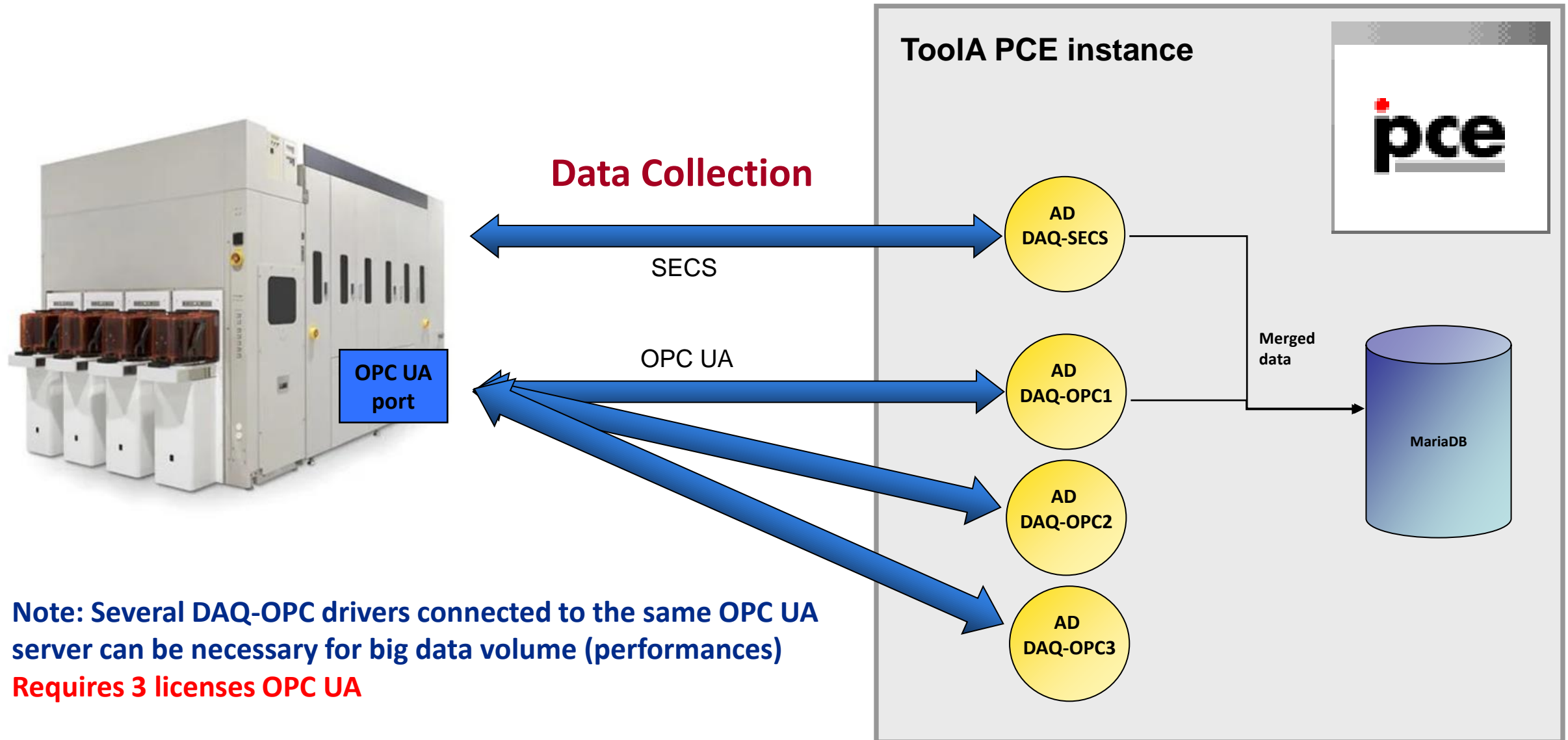
Note: Several DAQ-OPC drivers connected to the same OPC UA server can be necessary for big data volume (performances)
Requires 3 licenses OPC UA

OPC UA connection example: facility data on dedicated PCE

Collection of several pumps to the same OPC UA driver is possible
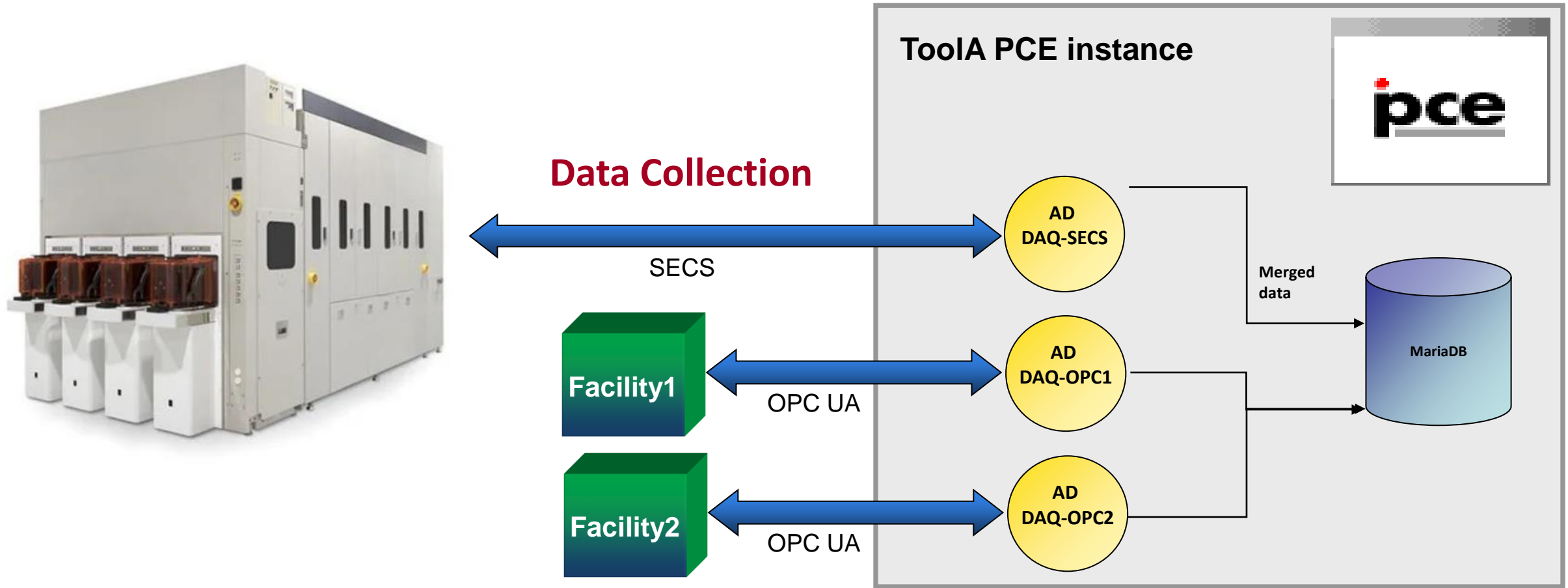
OPC UA

Collection of several FAB current boxes is possible to the same OPC UA port

OPC UA

Large data collection can impact OPC-UA driver performance, in such cases, a new OPC UA connection will be needed

2nd collection needed for large data

OPC UA

FACILITY PCE instance

AD DAQ-OPC1

AD DAQ-OPC2

AD DAQ-OPC3

Merged data

MariaDB

NOTE:
- Data collection over OPC UA
  - The number of parameters and collection frequency will dictate how much information can be collected over a single OPC-UA Driver
- PCE Performance
  - The PCE platform specification will limit how many OPC-UA drivers you can deploy on a single PCE instance

A specific PCE dedicated to facilities FDC using several DAQ-OPC drivers, using PermanentDC strategies or external triggers
Requires 1 PCE license + 3 OPC UA licenses

OPC UA connection example: facility data on existing PCE

ToolA PCE instance

Data Collection

SECS

Facility1 — OPC UA — AD DAQ-OPC1

Facility2 — OPC UA — AD DAQ-OPC2

AD DAQ-SECS

Merged data

MariaDB

Cost optimization: add some DAQ-OPC drivers on existing PCE platform, to collect data from facilities
Risks: performance issues impacting this ToolA FDC, facility alarms associated to wrong equipment name.
Requires 2 additional OPC UA

2025 User Meeting – Maestria Agenda

1. **Maestria updates**
   – 7.8.4 release content
   – Versioning enhancements status
   – New option: OPC UA connectivity
   – **Next Maestria enhancements**
2. **BSM updates**
   – Application overview
   – Application demo (15 min)
   – Development status

Next Maestria enhancements: next releases content

Next features planned for 7.9 release:

- **Connectivity continuous enhancements:**
  - HTTP REST (Get, Post, Put, Patch and Delete) methods supported on http and https URI (available)
  - Apache Pulsar compatibility, publish and subscribe on Apache Pulsar queues
  - Apache Kafka compatibility, publish and subscribe on Apache Kafka queues
  - EDA connectivity enhancements (collecting EDA data as external sensor)

- **Security enhancements:**
  - 3-tier FSR connection
  - Remove the dependency to MSXML and SoapToolkit third parties

- **Efficiency enhancements:**
  - Continue enhancing BSM application for efficient FDC model management

2025 User Meeting – Maestria Agenda

1. **Maestria updates**

   – 7.8.4 release content

   – Versioning enhancements status

   – New option: OPC UA connectivity

   – Next Maestria enhancements

2. **BSM updates**

   – **Application overview**

   – Application demo (15 min)

   – Development status

Bulk Strategy Manager (BSM) application overview

- **What does it do?** Allows bulk creation/copy/modification of FDC strategies to reduce maintenance and implementation time for new and existing equipments, processes, and control plans
- **When is it available?** Now, as a Maestria option
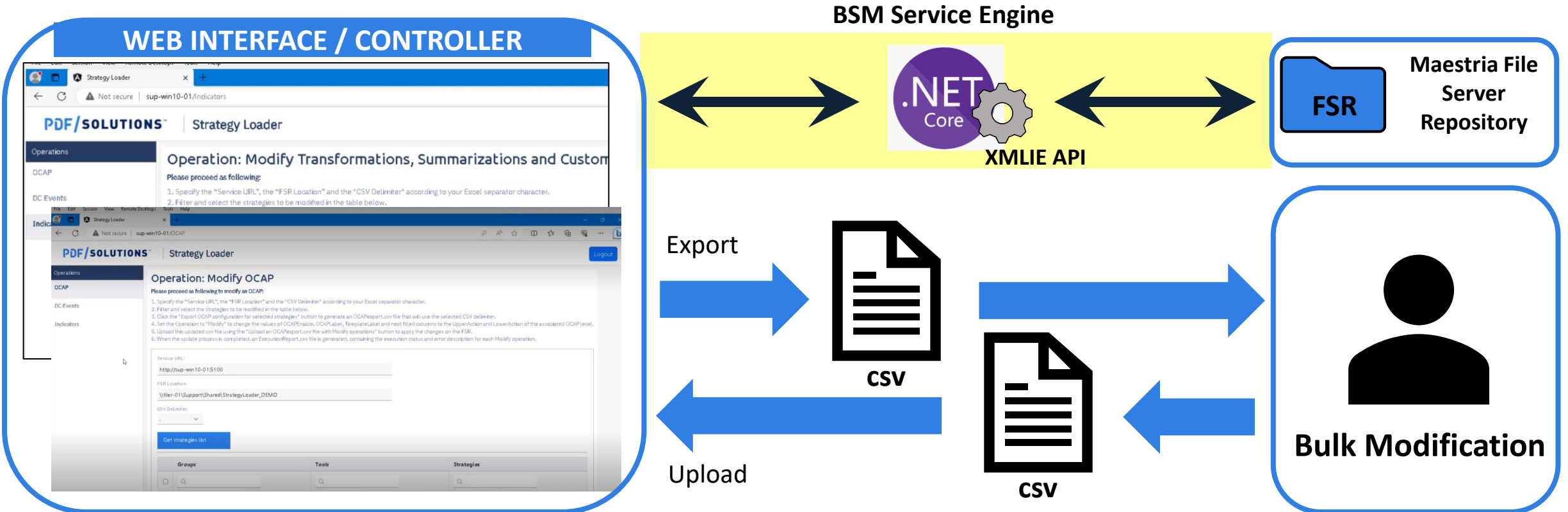
BSM application overview: purpose

- PCB is not addressing massive strategies changes/adaptations requiring manpower
- BSM exports strategies configuration into csv files through your web browser, so that massive changes can easily be made through Microsoft Excel
- BSM also processes the csv file to automatically apply the changes on the FSR
- BSM then provides an execution report providing detailed execution status
- BSM is not intended to replace PCB, it should be used by FDC leaders only (expected 1-2 instances per site)

- Possible use cases:

-IT Maintenance: update/deploy DCEvent templates, OCAPs templates, etc

-FDC maintenance: update/deploy variables, indicators, update SPC limits massively, etc

-Clean up: align strategies definitions, merge strategies to optimize perfs, etc

BSM application overview - UI content/workflow

■ **The BSM application is split in 7 operations:**

- **StrategyManipulation:** to create, clone, rename, activate, deactivate, delete strategies
- **DCEvents:** to modify the DC template (according to groups templates definitions)
- **DCPlan:** to modify sample times and variables (according to data dictionaries content)
- **Windows:** to add, modify, delete, rename the temporal and univariate windows
- **Indicators:** to add, modify, delete, rename the transformations, summarizations, and custom indicators
- **SPCLimits:** to add, modify, delete the SPC limit values
- **OCAPs:** to add, modify, delete the OCAP templates and parameters

■ **Each operation provides the same workflow:**

- a strategy search frame,
- an "Export to csv' feature
- an "Import csv command file" feature.

2025 User Meeting – Maestria Agenda

1. **Maestria updates**
   - 7.8.4 release content
   - Versioning enhancements status
   - New option: OPC UA connectivity
   - Next Maestria enhancements

2. **BSM updates**
   - Application overview
   - **Application demo (15 min)**
   - Development status

BSM application demo

Use case:

Update SPC limits,

Of the *AllDCTime_Max(Life_LFRF_S2_Time)* indicators

of all the strategies of the AMAT tools,

associated to the "Recipe2" recipes

2025 User Meeting – Maestria Agenda

1. **Maestria updates**
   - 7.8.4 release content
   - Versioning enhancements status
   - New option: OPC UA connectivity
   - Next Maestria enhancements

2. **BSM updates**
   - Application overview
   - Application demo (15 min)
   - **Development status**

BSM development status

Operations	Add	Modify	Rename	Delete
Strategies Manipulation	Available			
DCEvents + DCQL	n/a	Available	n/a	n/a
DCPlan	Available	Available	n/a	Q3 2025
Windows	Available	Available	Q3 2025	Available
Indicators	Available	Available	Available	Available
SPCLimits	Available	Available	n/a	Available
OCAPs	Available	Available	n/a	Available

Versioning integration into BSM: development on-going (Q2 2025)

Note: The BSM application is currently used in production in 5 customer sites

Maestria + E-PC survey
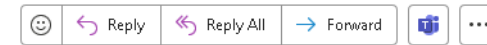
A survey has been sent to our FDC customers

This will help us defining the priorities and direction to our products

Please complete it when possible, it might not take more than 10 min!

PDF Solutions Product Survey - We Value Your Feedback! Help Us Improve Exensio Process Control and Maestria

Kazuki Kunitoshi (PDF)
To

☺ | ↩ Reply | ↩ Reply All | → Forward | ⧉ | ⋯
Thu 4/3/2025 6:04 PM

Dear PDF Customers,

We hope this message finds you well. At PDF Solutions, we are committed to continuously improving our products to better serve your needs. To achieve this, we need your valuable feedback on our products, Exensio Process Control and Maestria.
We invite you to participate in a brief survey that will help us understand your experience and identify areas for enhancement. Your insights are crucial in guiding our efforts to provide you with the best possible solutions.

Product Survey - Exensio Process Control and Maestria

The survey should take no more than 10 minutes to complete. Your responses will be kept confidential and will be used solely for the purpose of improving our products.

We would greatly appreciate it if you could submit your response by April 9, 2025. (The survey will remain open until the end of April)
The results of the survey will be shared during our upcoming user meeting.

Please forward this survey to other Exensio/Maestria users in your company. To ensure they receive the survey results, future surveys, and product information, kindly share their names and email addresses with us.

Thank you for your time and valuable input. We look forward to your feedback.

Best regards ,

Exensio Product Management Group

KAZUKI KUNITOSHI
Staff Technical Product Manager – Exensio Process Control

PDF/SOLUTIONS™

PDF SOLUTIONS KK

tel Cell (+81) 80.5682.9356
email kazuki.kunitoshi@pdf.com

This message may contain confidential and privileged information. If it has been sent to you in error, please reply to advise the sender of the error and then immediately permanently delete it and all attachments to it from your systems. If you are not the intended recipient, do not read, copy, disclose or otherwise use this message or any attachments to it. The sender disclaims any liability for such unauthorized use. PLEASE NOTE that all incoming emails sent to PDF e-mail accounts will be archived and may be scanned by us and/or by external service providers to detect and prevent threats to our systems, investigate illegal or inappropriate behavior, and/or eliminate unsolicited promotional emails ("spam"). If you have any concerns about this process, please contact us at legal.department@pdf.com.

Thank You

PDF/SOLUTIONS™

pdf-solutions pdfsolutionsinc pdfs.inc pdf_solutions pdfs_cn