



**Ground breaking  
Simulation Solutions**

*physics on screen*

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# Unlocking the power of process management with SPDRM

Spyros Tzamtzis

# “Traditional” Process Management

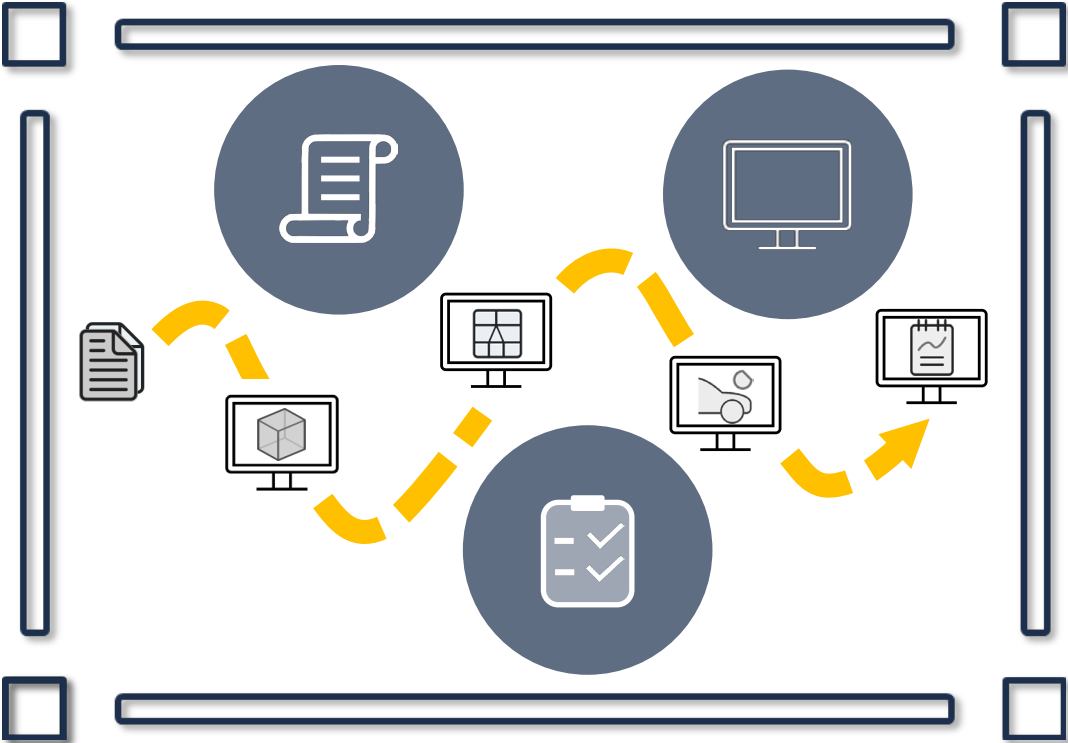


Script & Session files

Task  
Managers

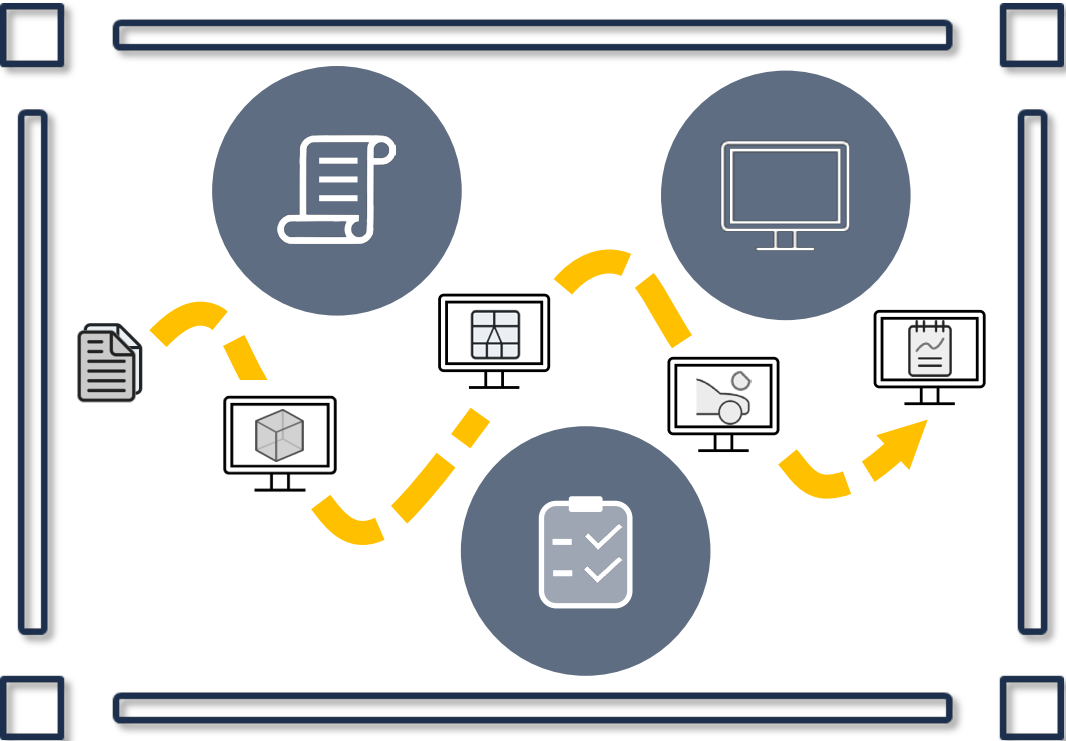
Run on local resources


# Limitations



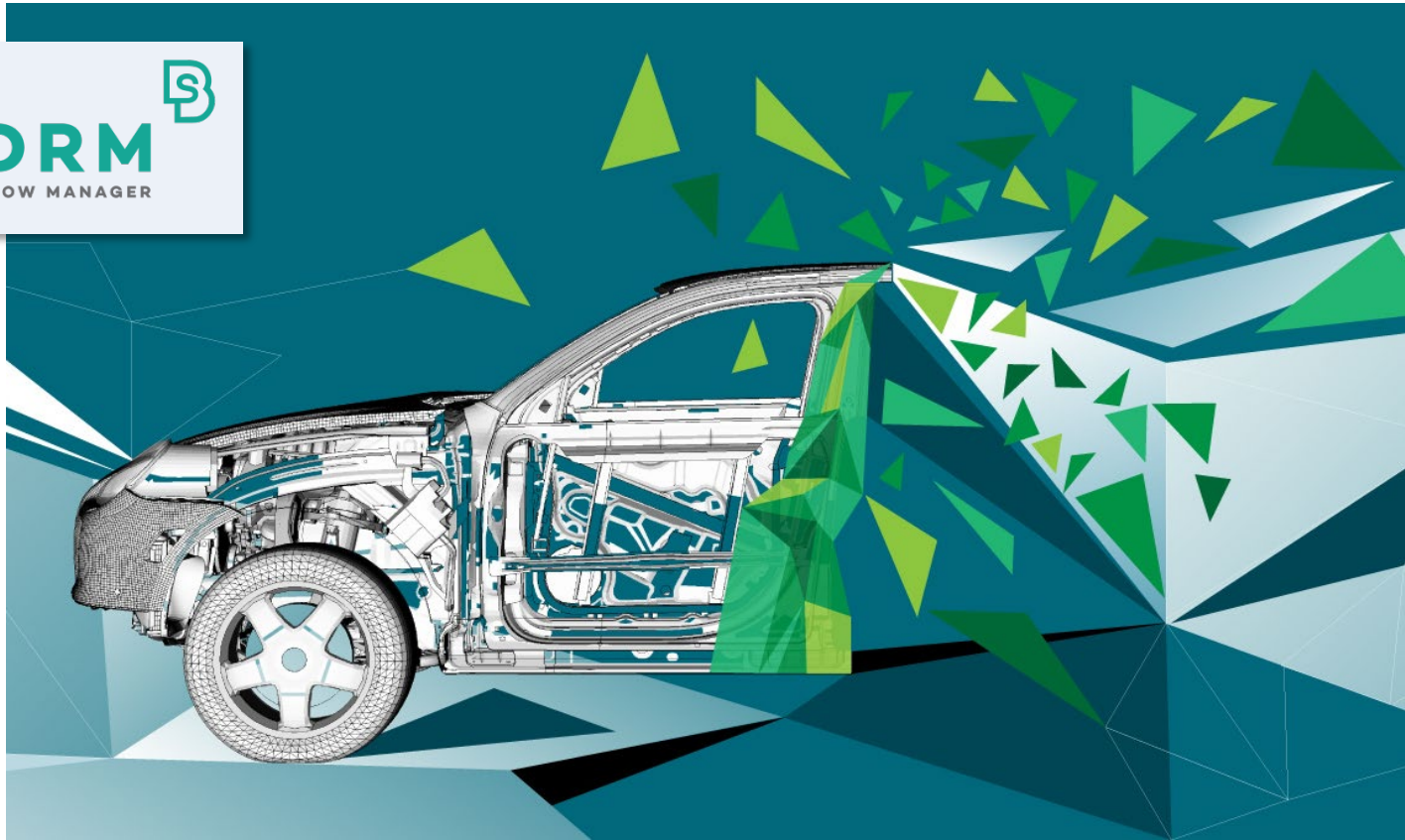
- Address task complexity
- Cross system boundaries
- Availability of resources
- Program task execution

# Our mission



*Unleash the potential of simulation with streamlined, distributed and optimized workflows* 

# The enabler



## SPDRM process management features

Cross-platform activities

Run on remote resources

HPC Submission

Task scheduling

BETA Suite integration

# SPDRM process management features

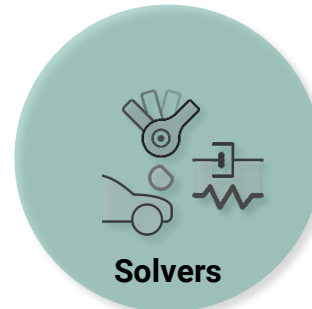
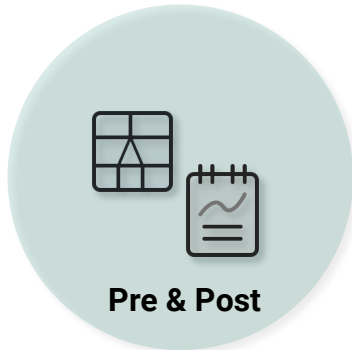
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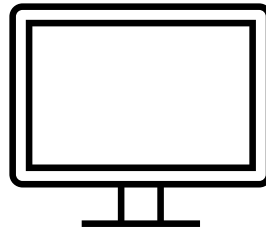
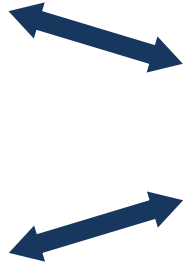
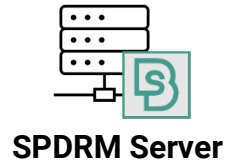
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KOMVOS



ANSA



META



3<sup>rd</sup> party app

# SPDRM process management features

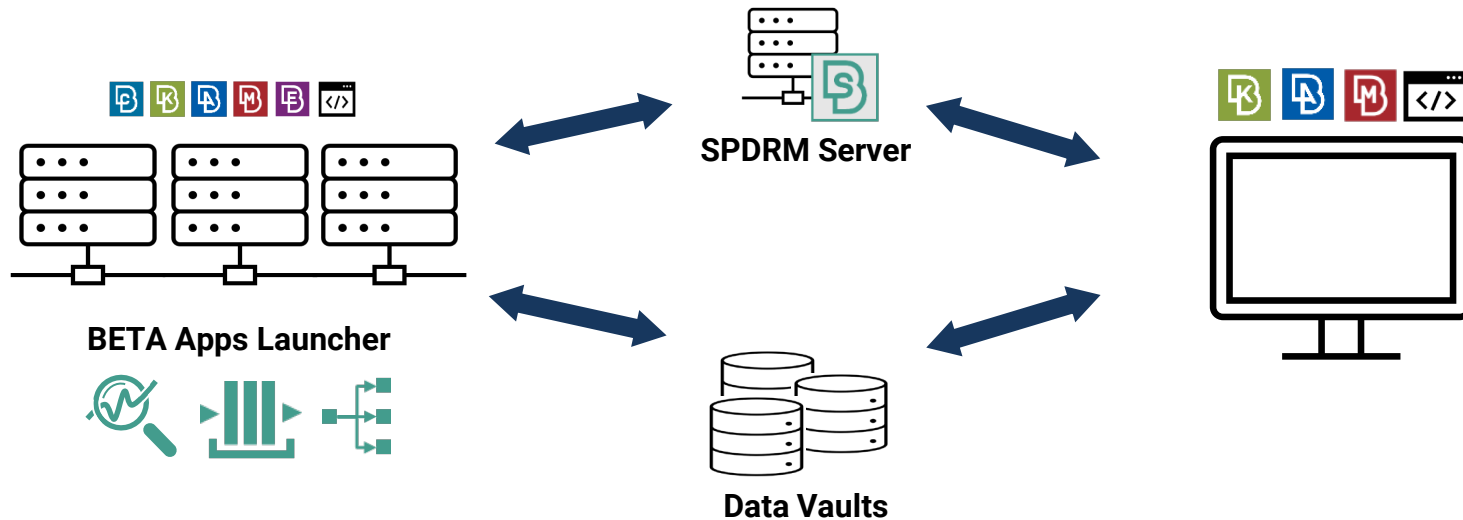
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# SPDRM process management features

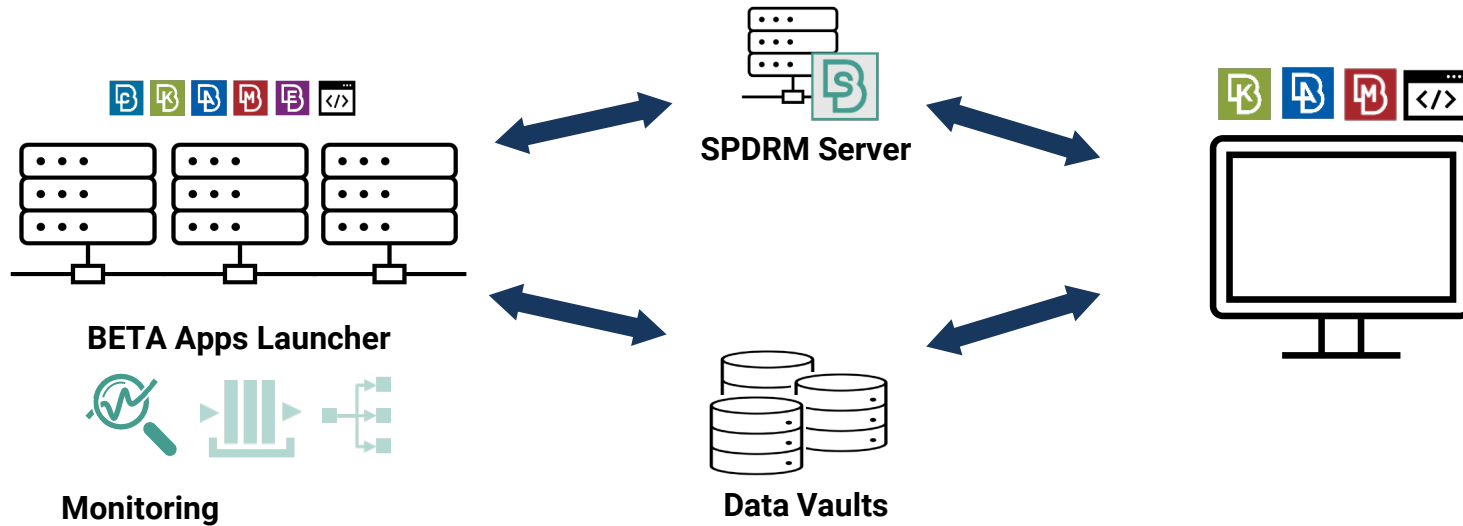
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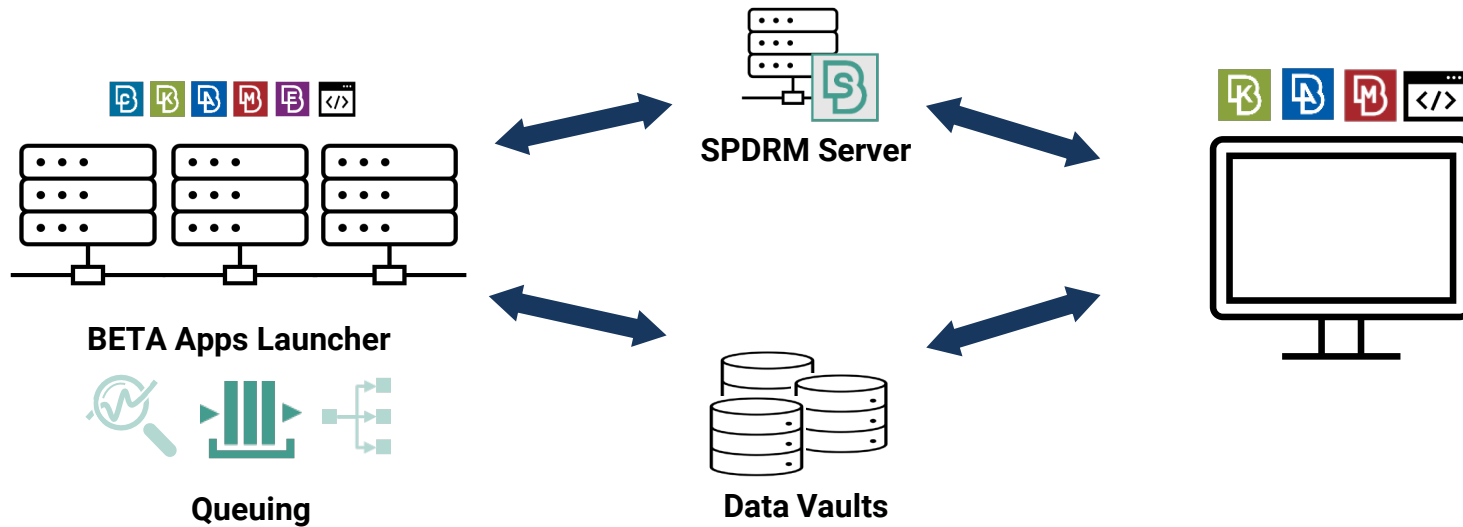
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# SPDRM process management features

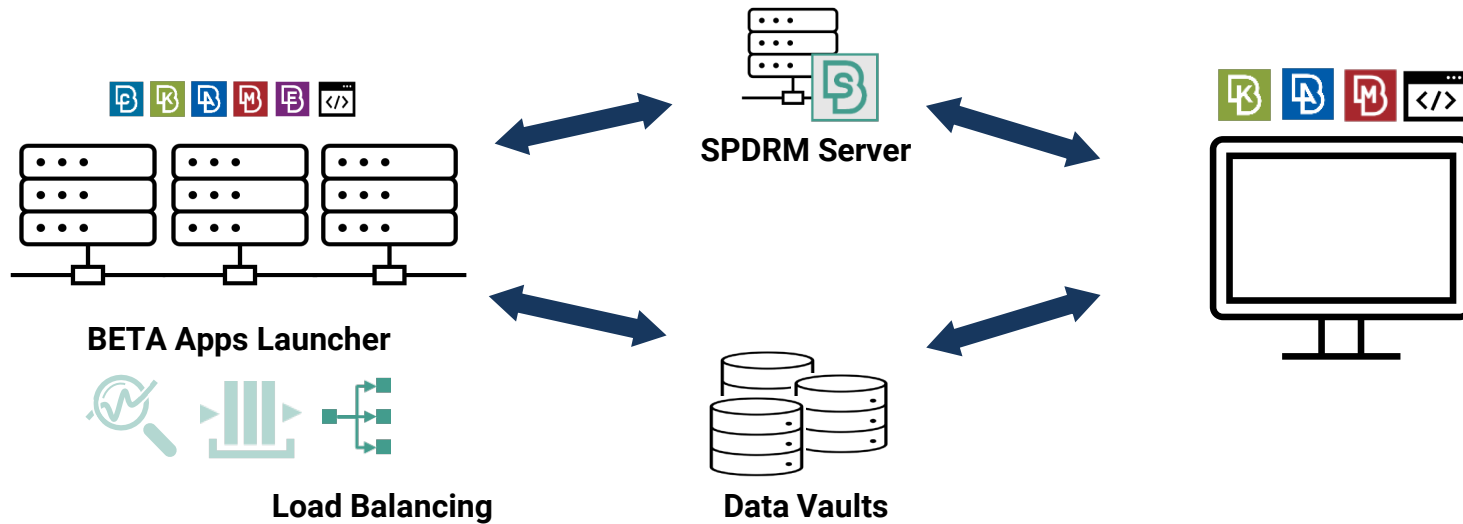
Cross-platform activities

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# SPDRM process management features

Cross-platform activities

Run on remote resources

**HPC Submission**

Task scheduling

BETA Suite integration



**HPC**



**KOMVOS**

- Submission of Jobs to HPC
- Monitoring of Jobs Status
- Option to cancel a Job
- Notification on Job completion
- Automatic process advancement

# SPDRM process management features

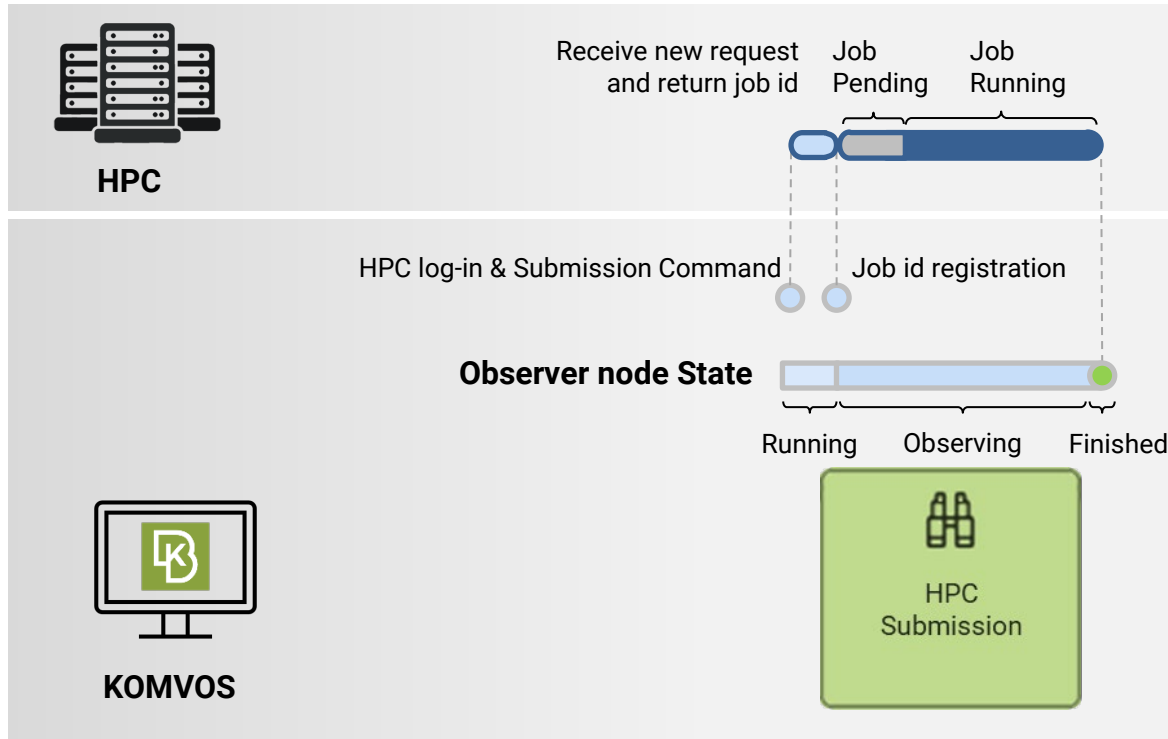
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# SPDRM process management features

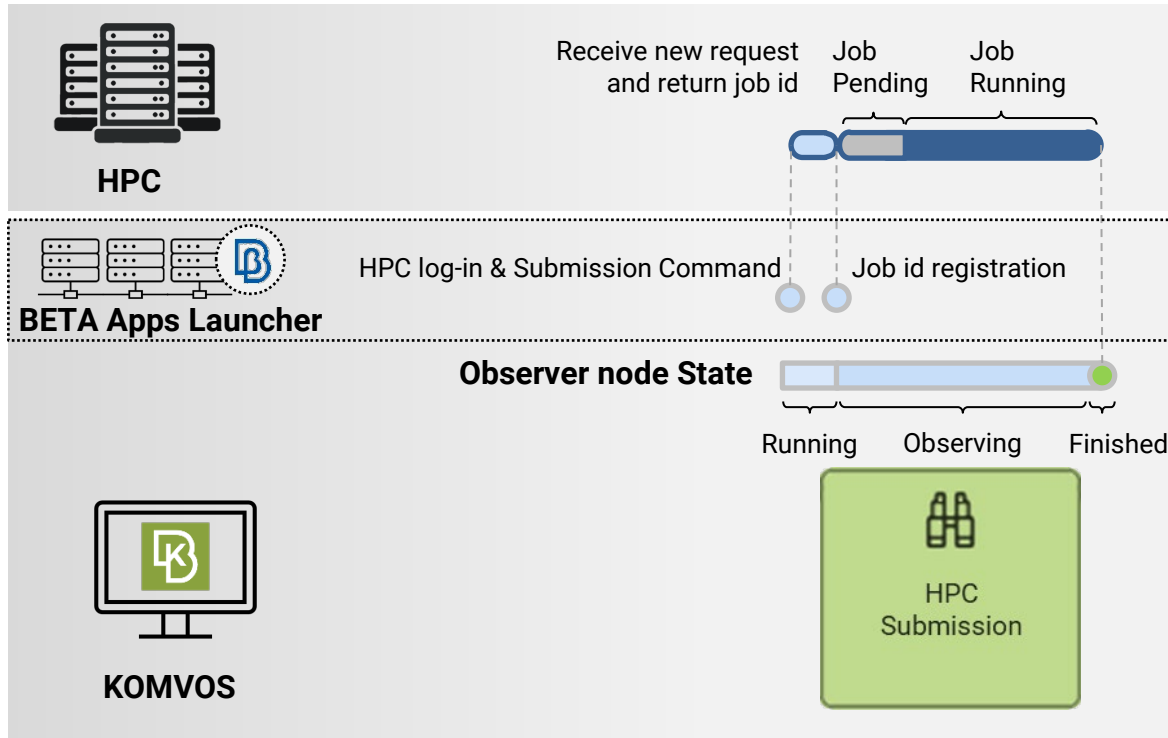
Cross-platform activities

Run on remote resources

**HPC Submission**

Task scheduling

BETA Suite integration



# SPDRM process management features

Cross-platform activities

Run on remote resources

HPC Submission

Task scheduling

BETA Suite integration

The screenshot displays the KDMVOS v24.0.0 interface. The top navigation bar includes 'File', 'Extras', 'Tools', and 'Help'. The main workspace shows a tree view of simulation models under 'venza (Project)'. The selected model is 'crash\_assembly\_venza\_a00\_hd\_crash\_001'. Below the tree, a table shows the status of simulation jobs.

Status	Name	Correlation Id	Node Id	Node Name	User	Priority	NodeList	JobName	StartTime	Related DM Objects
✓	front_offset_venza_a00_hd_001_01_01									
✓	front_offset_venza_a00_hd_001_01_01	14	32418	Submit run	c.kane	4294901747	slurmnodex1	front_offset_venza_a00_hd_001_01_01	2023-02-17T09:09:25	66789
✓	full_frontal_venza_a00_hd_001_01_01									
✓	full_frontal_venza_a00_hd_001_01_01	18	38244	Submit run	c.kane	4294901747	slurmnodex1	full_frontal_venza_a00_hd_001_01_01	2023-02-17T09:25:39	66799

# SPDRM process management features

Cross-platform activities

Run on remote resources

HPC Submission

**Task scheduling**

BETA Suite integration

Scheduled execution of CAE tasks

Execute SPDRM workflows or Script Actions

Eliminate the need of user interaction

# SPDRM process management features

Cross-platform activities

Run on remote resources

HPC Submission

**Task scheduling**

BETA Suite integration



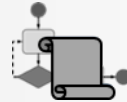
KOMVOS



**Who**  
Define User/Role



**When**  
Start/End/Interval



**What**  
Workflow/Script Action



**Where**  
Local/Remote resources



SPDRM  
no-GUI  
Client



## Recurring execution

# SPDRM process management features

Cross-platform activities

Run on remote resources

HPC Submission

Task scheduling

**BETA Suite integration**



Execute SPDRM Script Actions through the DM Browser

Manage SPDRM Processes through the BETA Suite API



Process Library



Process Instances

# SPDRM process management features

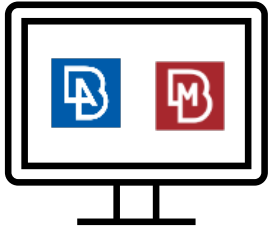
Cross-platform activities

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**BETA Suite integration**



Execute SPDRM Script Actions through the DM Browser

Manage SPDRM Processes through the BETA Suite API



**CAD  
Translation**



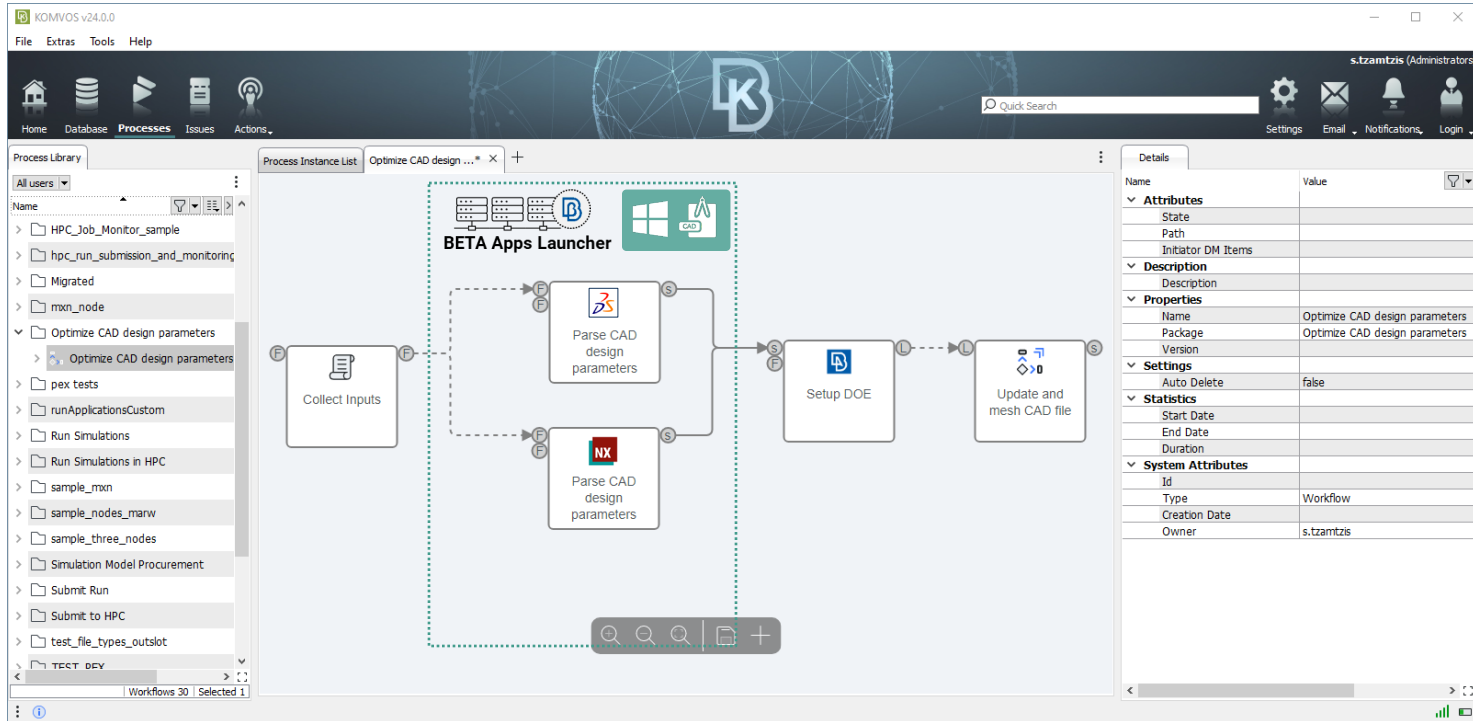
**Batch  
Meshing**



**DOE setup &  
HPC submission**

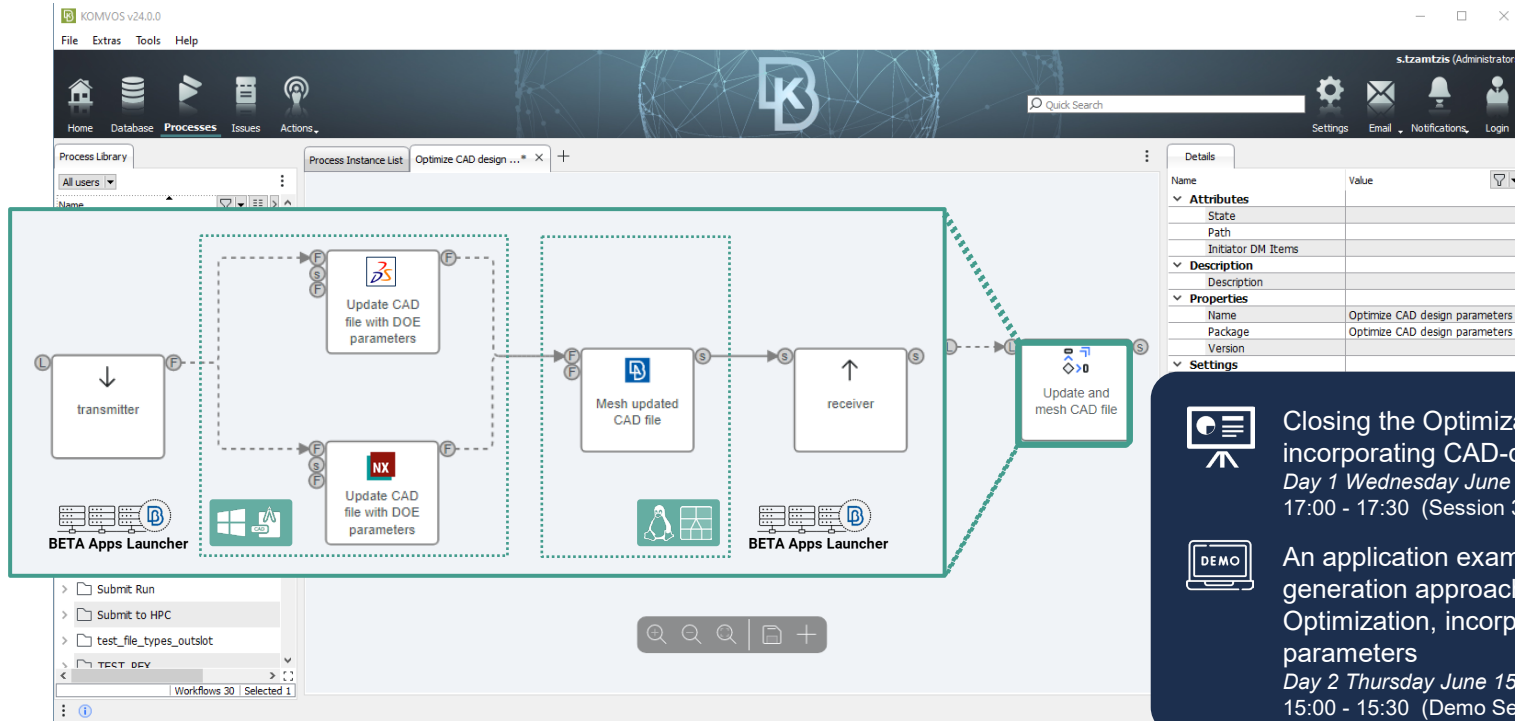
# Characteristic applications

## Optimization using CAD design parameters



# Characteristic applications

## Optimization using CAD design parameters



Closing the Optimization cycle:  
incorporating CAD-design parameters

Day 1 Wednesday June 14, 2023  
17:00 - 17:30 (Session 3B | Terra)



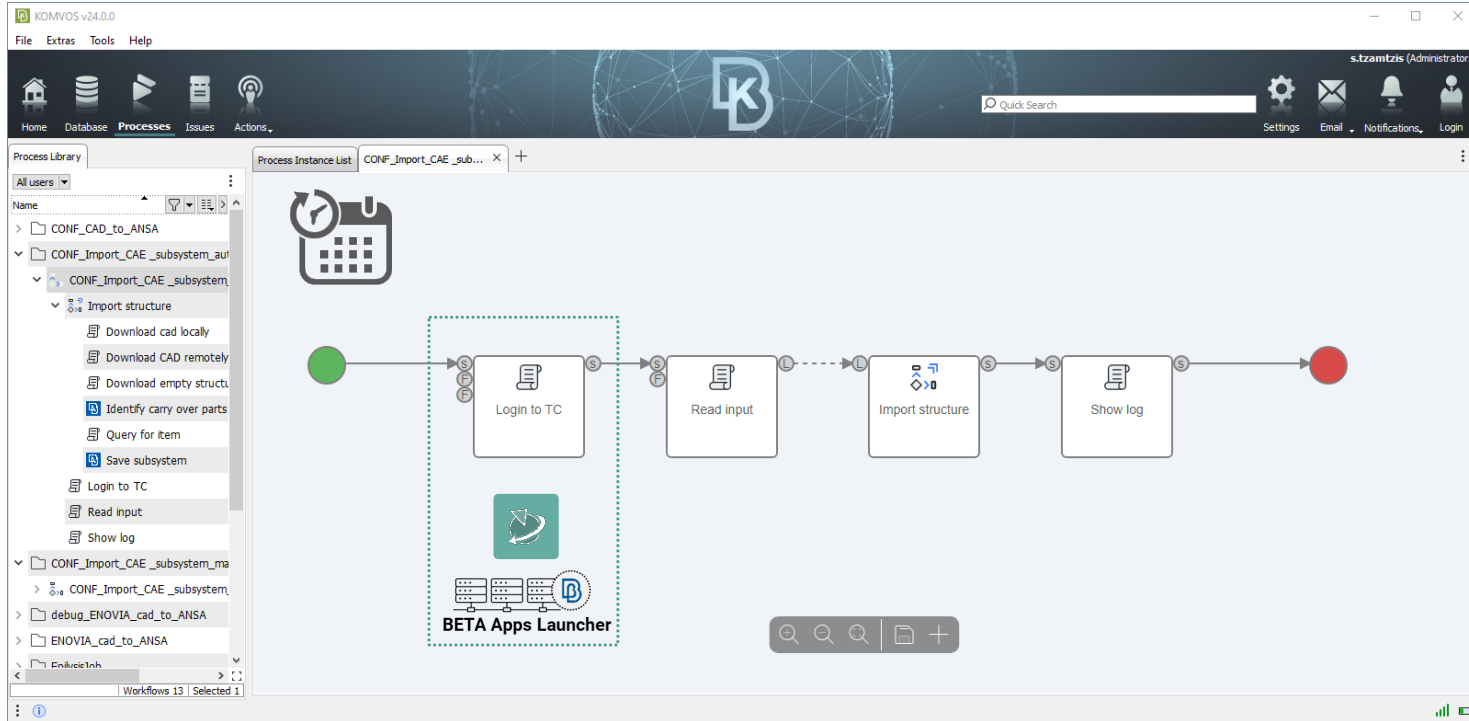
An application example of the next  
generation approach to Crash Simulation  
Optimization, incorporating CAD Design  
parameters

Day 2 Thursday June 15, 2023  
15:00 - 15:30 (Demo Session 6B | Mars)



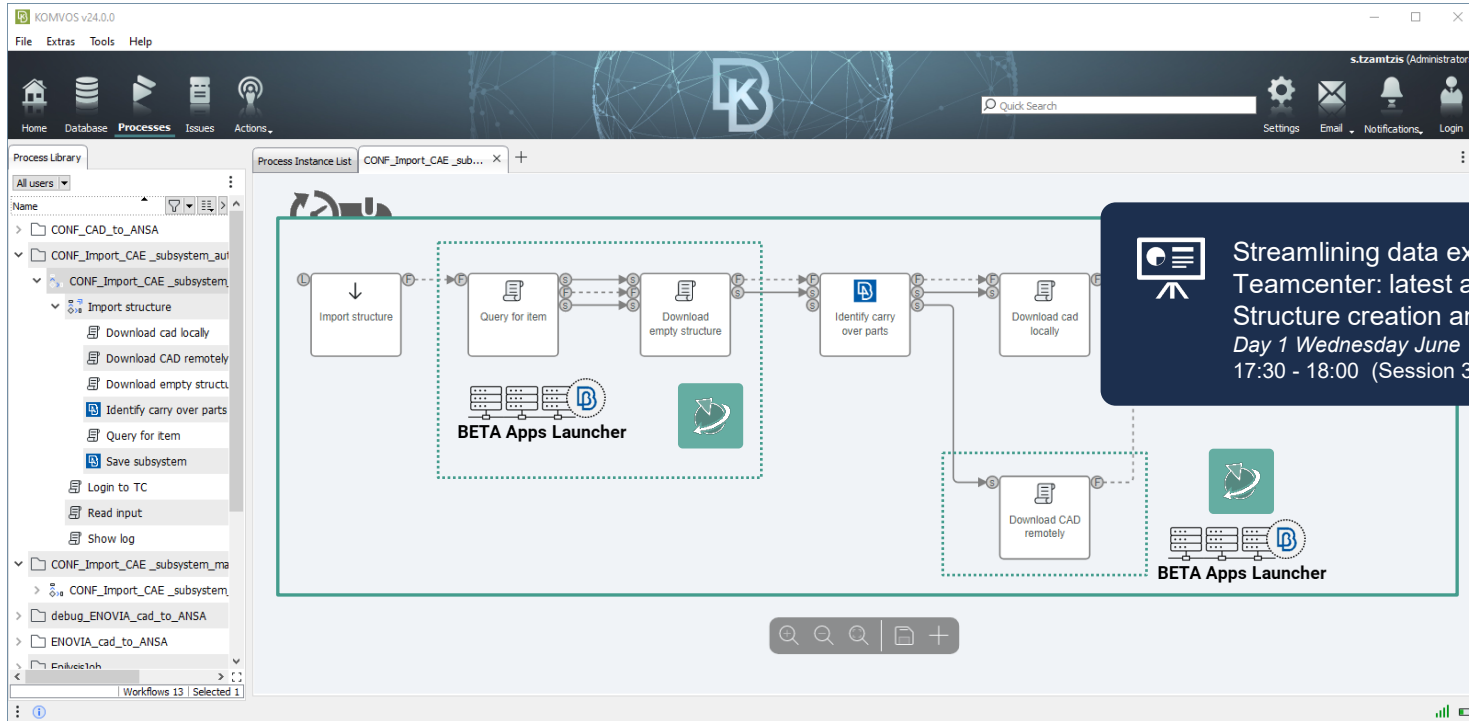
# Characteristic applications


## Streamlining data extraction from Teamcenter



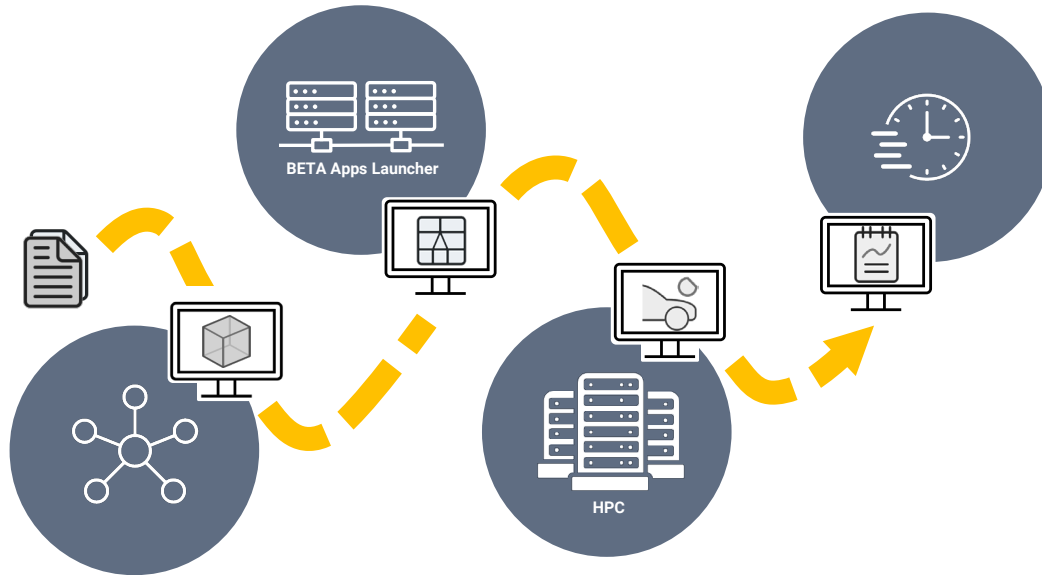
# Characteristic applications

## Streamlining data extraction from Teamcenter



 Streamlining data extraction from Teamcenter: latest approaches to CAE Structure creation and maintenance  
Day 1 Wednesday June 14, 2023  
17:30 - 18:00 (Session 3C | Jupiter)

# Unlocking the power of process management



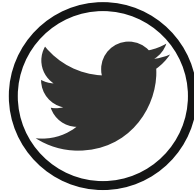
 **Cross-platform activities**

 **Run on remote resources**

 **HPC submission and monitoring**

 **Task scheduling**

 **BETA Suite integration**



**Stay connected**