SAP BI Data-load Improvement Roadmap

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XYZ DATA FLOW LAND-SCAPE

- ❖ Global BI system (B0*)
- ❖ Western Europe (B4*)
- ❖ EMEA (B7*, B0* & B4*)
- ❖ AMERICAS (B5*)
- ❖ ASPAC (B6*)

    o Each region has individual process chains to load BI data into regional BI system.
    o Global BI system is sourced from all the regional BI systems, once the regional systems complete their individual data load for the day
    o System time in each system is different
    o Load time / load window in each system is different
    o There are load dependencies between different regional systems and regional-global system
    o Monitoring of data load is managed by support provider, from India – as per the time-zone requirement.
    o Report users categories by data use:
        ▪ Data from single BI system
        ▪ Data from multiple single BI system
        ▪ Data from ALL BI systems through the Global BI system

CURRENT ISSUES:

- No / minimum dependencies between data loads/process chains in Regional – Global system
- Not enough notifications in place for either success or failure of important data load steps.
- Not enough performance improvement steps are incorporated in the existing process chains.
- No standard monitoring procedure in place to address day-to-day data load and data recovery efficiently
- No standard / custom analysis procedure in place to do historic analysis of BI data load, based on the pre-set criteria .
- Knowledge on data flow and data load available in portion with multiple team or individuals.
- No separate MANUAL PROCESS CHAINS available to address occasional data load needs.
- No separate INITIALIZATION PROCESS CHAINS available to address the data initialization needs.

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OBJECTIVES:

	Benefit	How to implement?
Create message (notification) in the main steps or at the error or at the end of the process chains.	Easy way to detect errors	Refer to sections *"Utilities and Custom techniques"* below
Use events to start process chains.	• Dependencies between the process chains can be set and used. • This provides flexibility to schedule process chains with the help of a driver ABAP program	• Associate an event with every process chain. Start every process chain by an event. • Alternatively, make the Chain 'Start using Meta Chain or API'. Refer to sections *"New Process types"* below.
Make use of parallelism	Many process types available such as Loading, Attribute change run, ODS Activation etc. supportsparallelism.	Analyse the scope and implement if needed and is possible.
Use performance improvement option available	Both query and data load improvement options available	Refer to section *"Performance improvement options in a Process Chain"* below.
Monitor and analyse Process chain performance	Use all available options such as RSPCM, BI Statistics etc.	Refer to sections *"Process Chain monitoring tools"*&*"Process Chain analysis tools"*below
Create a step-by-step house-keeping procedure for the support team to use.	All the dependencies, start time, load time, steps, monitoring, error logs, escalation process, data flow etc. will be available in one place to follow or hand-over.	To be designed using sections *"Process Chain monitoring tools"*&*"Process Chain analysis tools"*below
One stop dashboard using BI tools (Webi, BEX &Xcelcius) to monitor and analyse BI data load	User friends one stop dashboard for all BI data load related information. Benefits: • Efficiency • Accuracy • Easy error resolution • Wider audience • Traffic light approach for various errors /KPIs	1. Collect BW Stats 2. Collect BW Logs 3. Use Statistics & Custom InfoCube for data 4. Build BEX Query & WEBI for information 5. Use all information in the Xcelcius dashboard using web-services

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SOLUTION IMPLEMENTATION APPROACH:

Plan / Approach	By Region	By Function	By Technical Category
Short-term Plan (Next 2 months)	Europe BI system	MING & Volume information	1. Error Notification 2. Dependencies
Long-term Plan (Next 12 months)	Global BI system & All regional BI systems	All data category	1. Error Notification 2. Dependencies 3. Monitor & Analysis procedure 4. Performance Improvement 5. Step-by-step Load manual 6. Dashboard for periodic analysis 7. Parallel load mechanism

Legends:
- **Region**   : Europe, EMEA, ASPAC, AMERICAS
- **Function**   : Marketing, Finance, Operations
- **Technical Category** : Monitoring, Analysis, Notification, performance tuning, parallelism

RESOURCE REQUIREMENT:

Plan / Approach	From Business	From Support	From Technology
Short-term Plan (Next 2 months)	1 (Part-time)	1 (Part-time)	2 (Full-time)
Long-term Plan (Next 12 months)	1 (Part-time)	1 (Part-time)	2 (Full-time)

PROJECT PLAN:
To be furnished – after initial project scoping

PROJECT RESOURCES:

Name	Role	Function
Tommi Nordstrom		Part-time
Neil Storkey		Part-time
TBA		Part-time
Jatin Mehta		Full-time
Bikash Mohanty		Full-time
Daniel Percze		Part-time

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AVAILABLE BI FEATURES FOR CONSIDERATION:

NEW PROCESS TYPES:

	Benefit	Application
Decision Between Multiple Alternatives (*)	Important feature to deal with multiple options & their respective load path with these options	
Construct Database Statistics	Important for database read. Improves report performance	
Deletion of Requests from the Change Log (*)	Improves system performance with deleted change logs	
Interrupt process	Useful when a process chain needs to be stopped and analysed.	
Trigger Event Data Change (*)	• Broadcaster can be trigger after this event • OLAP cache can be built after this event triggered	
Check process chain is already active (*)	Does not start the process chain, if the previous run is still active. (From NW BI 7.0 SP14 onwards – a new process type)	

NEW PROCESS CHAIN FEATURES:

	Benefit	Application
Process status evaluation (*)	Ignore error in an 'Unimportant' step, and set the status of entire Process Chain to Green.	
Execution User	Background user can be used , instead of temporary staff ID	
Copy process chain	Can be used for creating manual and initialization process chains from the existing process chains	

PERFORMANCE IMPROVEMENT OPTIONS IN A PROCESS CHAIN:

	Benefit	Application
Initial Fill of New Aggregates / Roll Up of Filled Aggregates	Report performance	
Compression	Report performance	
Construct Database Statistics	Load & report	

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	performance	
Delete / Generate indexes	Load & report performance	
Deletion of Requests from the Change Log	System performance	
Deletion of Requests from PSA	System performance	
Process chain log deletion program (*)	System performance	
OLAP Cache build Job at the end of all PCs	Report performance	

PROCESS CHAIN MONITORING TOOLS:

	Benefit	Application
Transaction - RSPC	Identify chains that use a particular Process Type	
Transaction - RSPC1	Display log of one chain at a time	
Transaction - RSPCM (*)	'One stop shop' to monitor critical process chains' runs	
Transaction - RSM37 (*)	Links a SM37 background job to a process chain	

PROCESS CHAIN ANALYSIS TOOLS

	Benefit	Application
Transaction - RSPC2 (*)	• Can be used to identify	
Transaction - BWCCMS (*)	• Can be used to identify overall process chain errors (status) just by looking at the node 'Process chains'. • Integration with Process chain log (by double click on a message)	
Transaction - ST13	Run-time analysis of process chains can performed usingTransaction Code ST13, for example comparison of runtime.	
BI Statistics reports	Various process chain related logs in the statistics Infoproviders, can be used for analysis & improvements	

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UTILITIES AND CUSTOM TECHNIQUES

	Benefit	Application
How to debug a process chain?	Useful to debug a particular step / process type from menu bar of the same process chain in the change mode	
How to stop a running process chain?	Manual intervention to stop a process chain from running. Can be done from RSPC or from SM37 using a standard program	
How to identify chains that use a particular Process Type?	Used for analysis purpose	
How can we incorporate decision branches in a Chain?	Saves loading data when it is not needed. (Ex: No new data in DSO – so no need to load the InfoCube)	
Custom method to schedule process chains.	Dependencies defined, applied and executed. No scope of missing human step.	Write an ABAP program to schedule all process chains with dependencies
Custom method to identify errors in process chains.	Helps to notify right person in right time about a load failure.	Write an ABAP program to collect and report all process chain errors in the system to right person at right time.

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