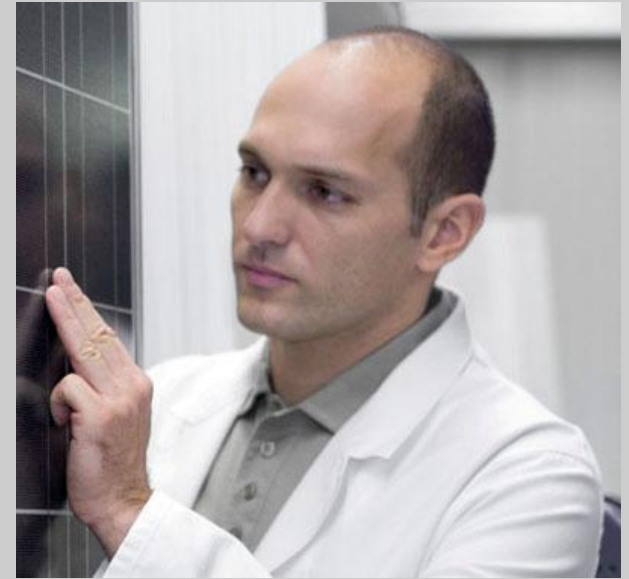


SAP Solution Manager - Solution Reporting



SAP Solution Manager Product Management
SAP AG

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Reporting Concept

EWA Reporting

Service Level Reporting

Solution Reporting

Summary

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Role of SAP Solution Manager in Lifecycle Management



Application Management

SAP Solution Manager

- Maintenance strategy, processes, and projects
- Continuous improvement projects
- Software Change Management
 - Development and enhancement projects
 - Deployment projects

Planning

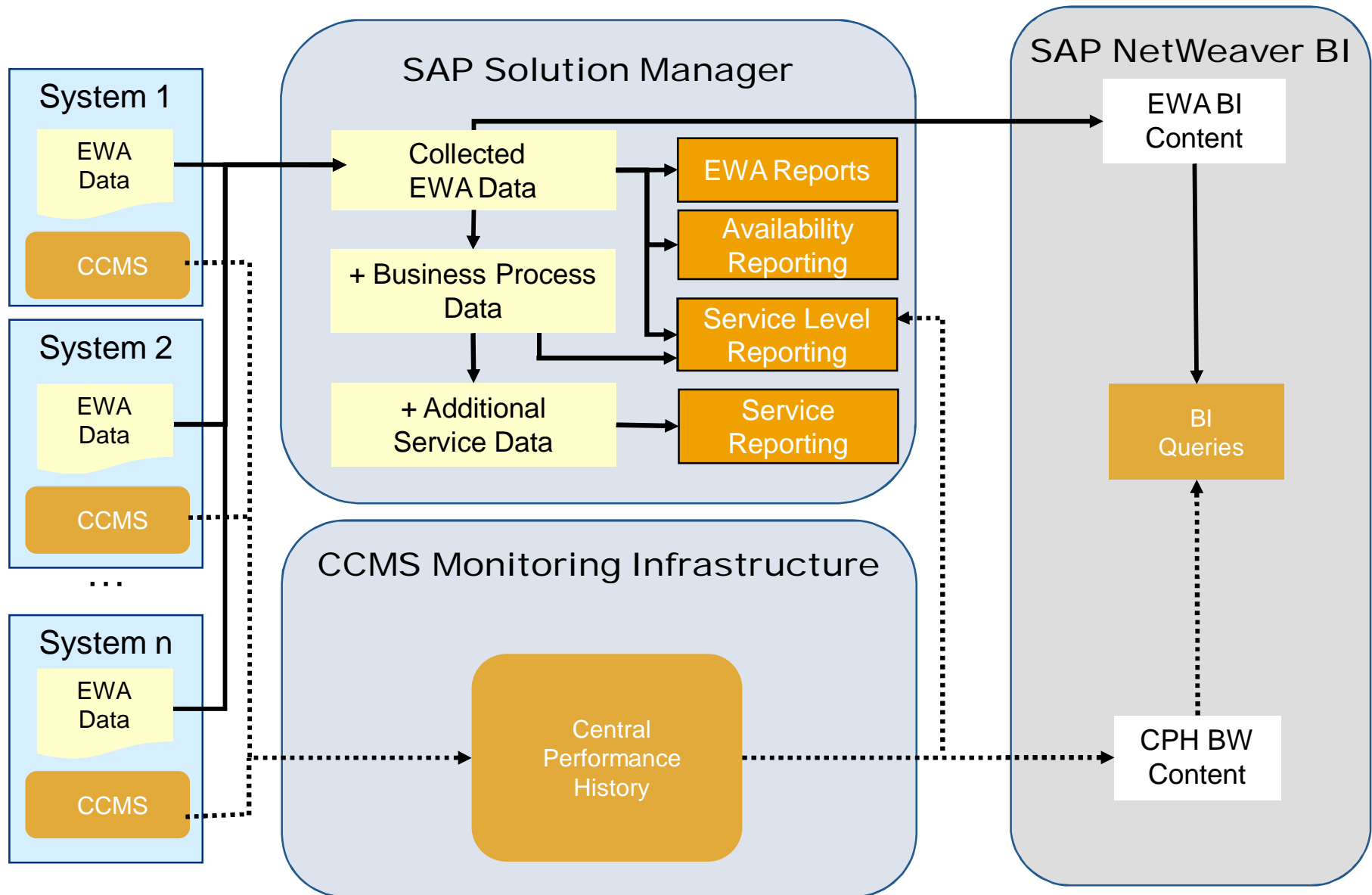
Status

NetWeaver Lifecycle Management

SAP NetWeaver Administration Tools + Software Logistics

- Daily system administration and monitoring
- Configuration
- Initial Setup
- Software Maintenance Management
- Business Content Lifecycle

KPI Reporting Architecture





Reporting Concept

EWA Reporting

Service Level Reporting

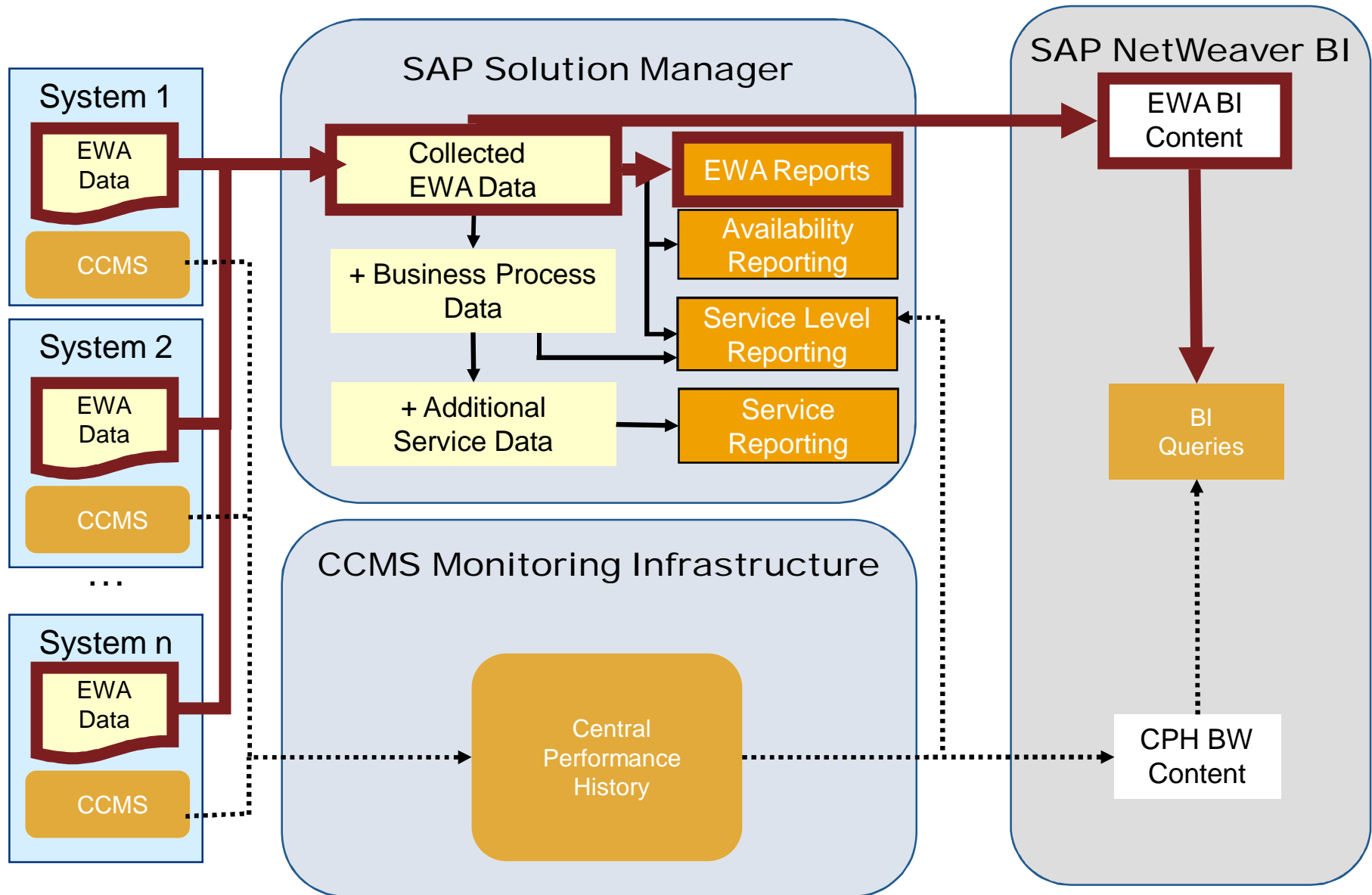
Solution Reporting

Summary

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KPI Reporting Architecture - Early Watch Alert (EWA)



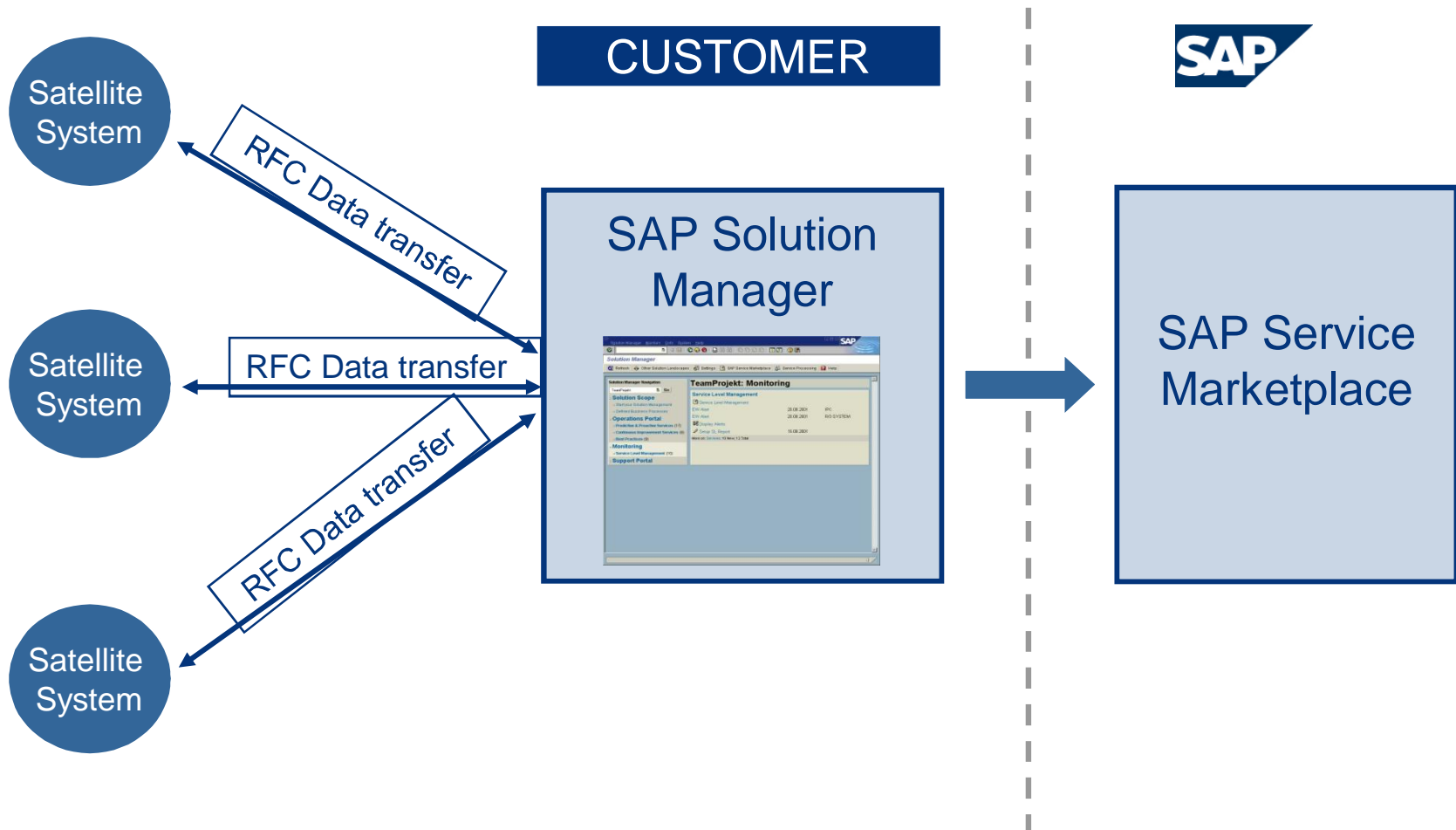
What is the SAP EarlyWatch Alert?

- Important system data is transmitted from SAP customer system to SAP Solution Manager at regular intervals via remote connection
 - The data transferred includes only *technical data with non sensitive content*, which is transparent and manageable in transaction SDCCN
- SAP Solution Manager analyzes this data and provides a clear overview of the results in a report, which can be downloaded from or distributed by SAP Solution Manager.
- Keeping total cost of ownership low and the performance of your SAP solution high is a tremendous value to your business – a value delivered by SAP EarlyWatch Alert.



- ▶ System Configuration
- ▶ Performance Overview
- ▶ Workload Distribution
- ▶ SAP System Operations
- ▶ Hardware Capacity
- ▶ Database Performance
- ▶ Database Administration
- ▶ Trend Analysis

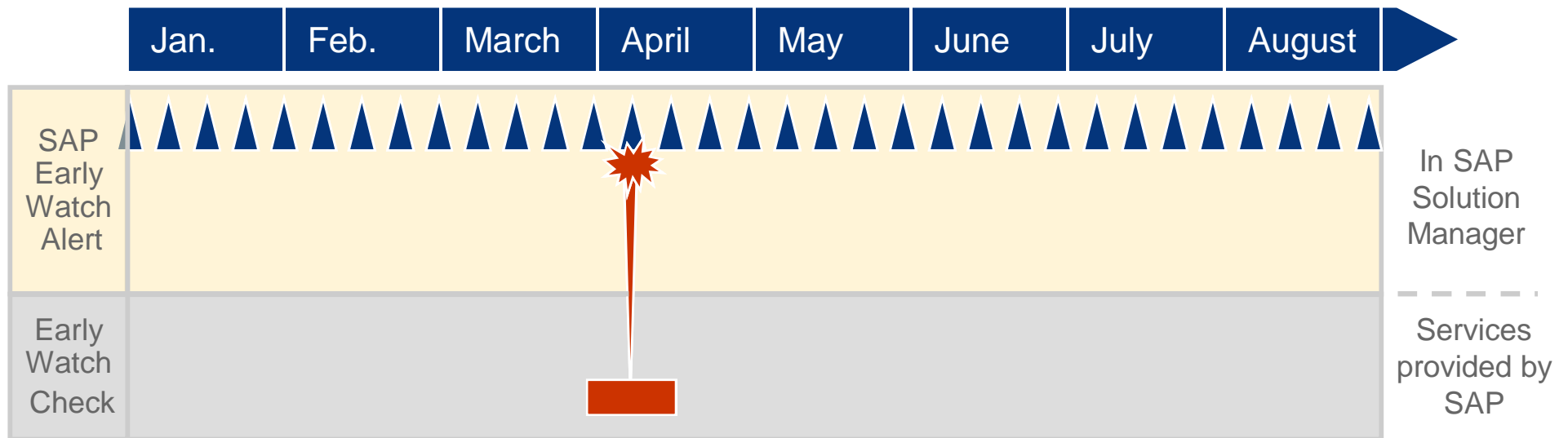
SAP EarlyWatch Alert Data Transfer



What are the benefits of EWA in SAP Solution Manager?

- If you display the EarlyWatch Alert in SAP Solution Manager, you benefit from:
 - Access to detailed download data on which EWA Reports are founded
 - Higher availability of graphics (only a limited selection is available on SAP Service Marketplace)
 - Concise, central administration and archiving possible
 - Allocation and documentation of tasks (in EWA Session).
 - Summary of EWAs and selection of content via SL Reporting
 - Tracking of tasks in SL Reporting.

SAP EarlyWatch Check



▲ SAP EarlyWatch Alert is performed on a weekly basis at the customer site using the SAP Solution Manager

★ In case of any critical alerts monitored by SAP EarlyWatch Alert, the results will be sent in addition to the periodical reports to SAP. An SAP EarlyWatch Check will be scheduled by SAP. Each productive installation is entitled to up to two SAP EarlyWatch Checks per year performed by SAP within SAP Standard Support.

EarlyWatch Alert (EWA) and EarlyWatch Check



EarlyWatch Alert (EWA) and Solution Manager Diagnostics



Monitored SAP System

Solution Manager Diagnostics

Abstraction and Aggregation

Abstraction
↓

SAP EarlyWatch Alert

Stability

Performance

Resource Utilization

← Aggregation



Customer's Perspective

EWA for Non-ABAP - KPI Coverage



Data Source	KPI	Stability	Performance	Resource Utilization
Garbage Collection Analysis	GC Time	●	●	
	Memory Growth Rate	●	●	
	Memory Usage			●
Wily Introscope Data	Top iViews		●	
	Top WebDynpro Components		●	
	Top SQL Statements		●	
	Top JCO Calls		●	
J2EE	HTTP Sessions			●
Portal Activity Reporting	Number of Named Users			●
	Most Frequently visited iViews		○	○
	Most Frequently visited pages		○	○
GRMG	Availability	●		

- ⑩ Customers with specific reporting needs or interest on history, detailed analysis and high quality graphics. They must be able to build their own reporting in BI for more than one system for several KPI's and several time intervals.
- ⑩ SAP EarlyWatch Alert data which provides a large data pool of KPI's and other information will come together with Solution Manager Landscape Data (SMSY) in BI for more than one system.
- ⑩ SAP EarlyWatch Alert together with Solution Manager Landscape Data can provide information (Products, Components, Support Packages, ...) for BI queries. This can be combined with CPH (Central Performance History) data for common queries.
- ⑩ Users are IT Manager and IT Provider to get an flexible, detailed reporting for KPI's to recognize tendencies and analyze complex problems.

Data Extraction - Source System



EWA/ BI Data Selection in SAP Solution Manager

Administration Tool for BI Data Transfer

Source for BI data extraction

- Solution
- System
- Installation
- All Systems where services has been delivered

Period for BI extraction

- This Week
- Last Week
- Period from

Selection of Parameters

Parameter Set

Administration Details

- Delete Existing Data in BI Transfer Table
- Insert Data in BI Transfer Table

System Data | More System Data | Sever Data | Performance Data | Modul Data

Description	Active	Check Group	Check ID	Context	Context instance	Table name	Table columns
Kernel	<input checked="" type="checkbox"/>	EA_SYSTEM	7	R3_SYSTEM		Kernel	4
Support Packages	<input checked="" type="checkbox"/>	EA_SYSTEM	3	R3_SYSTEM		Support Package	5
Notes	<input checked="" type="checkbox"/>	EA_SYSTEM	14	R3_SYSTEM		Note, Version, Component	4
Hardware	<input checked="" type="checkbox"/>	EA_SYSTEM	1	R3_SYSTEM		Hardware	6

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Selected KPI's for BI



Close to 100 KPI's will be reported to the BI system !

System	Sys. Data	Performance	Modul	Server	Database (z.B. DB MSSQL)
Product and Version	Users (H,M,L)	Current Workload (ST03)	Workload by Application Module (CPU + DB)	Server (CPU + Paging)	System Activity Overview
Database and Release	ABAP Dumps	Time Profile (ST03)	Load by Application Modul	CPU Utilization	Missing Indices
Components and Version	System Availability	Transaction by DB Load	Selected Business Process Transactions	Memory Utilization	I/O Performance
Notes and Version	Update Errors	History of Response Times		OS-Parameter	Wait Statistics
Support Packages	Server List	Response Times of Transactions		Profile Parameter	DB Growth
Hardware (OS, CPU, Memory)					DB Freespace
Kernel and Release					



For additional and updated information, visit the SAP Service Marketplace at

www.service.sap.com/ewa

- Detailed Content and Benefits
- Technical Prerequisites
- Click Media Library, PDF Datei, Sample Report with Explanation'
- Check www.service.sap.com/rkt-solman >> Technology Consultant for SAP Tutors regarding setup of EWA



Reporting Concept

EWA Reporting

Service Level Reporting

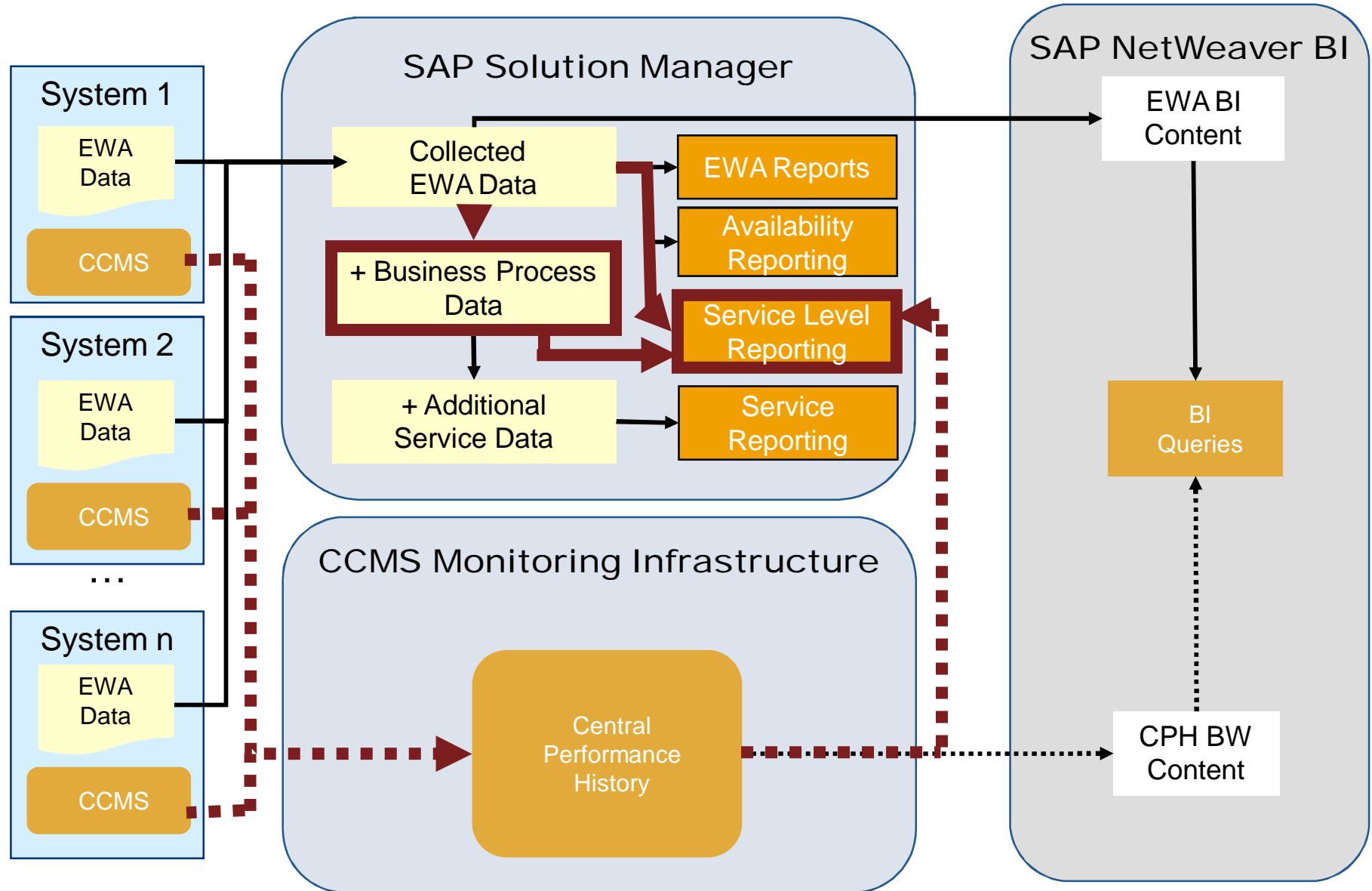
Solution Reporting

Summary

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KPI Reporting Architecture - Service Level Reporting



Service Level Management (SLM)

- The **disciplined, proactive** methodology and procedures used to ensure that **adequate levels of service** are delivered to all IT users in accordance with **business priorities and at acceptable cost**

Service Level Agreement (SLA)

- Agreement on quality of services between service customer and service provider
 - Business Process Owner (BPO) and IT Organization
 - IT Organization and Business Partner (hardware partner, software partner, implementation partner, outsourcing partner)

Service Level Reporting (SLR)

- The IT department measures and periodically communicates the agreed service goals

KPIs should be defined to quantify and verify the success of business process management and operation in order to support and ensure that the defined business objectives are met

- KPIs are somehow associated with business-related or business-wise indicators such as
 - Average business transaction response time
 - Document throughput
- KPIs are used to check and ensure the performance of the business processes
- KPIs are used to ensure a stable solution environment with performant processing
- KPIs can be used as Service Level Agreements (SLAs)
- SLAs and their adherence are related to certain agreements (more technical) between different service levels or organizational units (such as system availability etc.)

Task

- Comprehensive service level management and reporting to administrators and customers

Target Group

- IT Organizations
- IT Service Provider

Benefits

- Summarizing several EWAs in one report
- Additional data, target values and rating possibilities
- Support of strategic decisions
- Recommendation of optimizations
- Follow-up of Tasks
- -> Easing service level management



SL Reporting - Data Collection



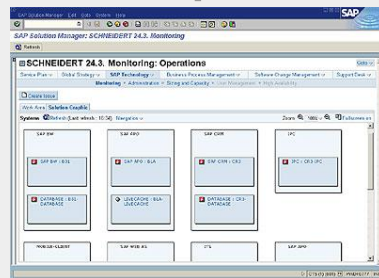
SAP Solution Manager

Critical Alert Situations:

Business Process Monitoring

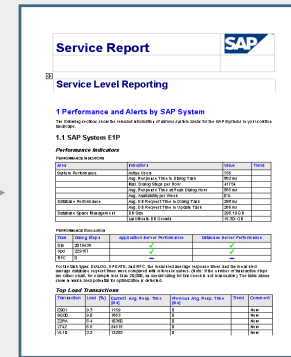
System Monitoring

Satellite Systems



Real-time Monitoring:
CCMS Monitoring
Infrastructure (RZ20)

Aggregated
Business Process Alerts



Detailed Reporting

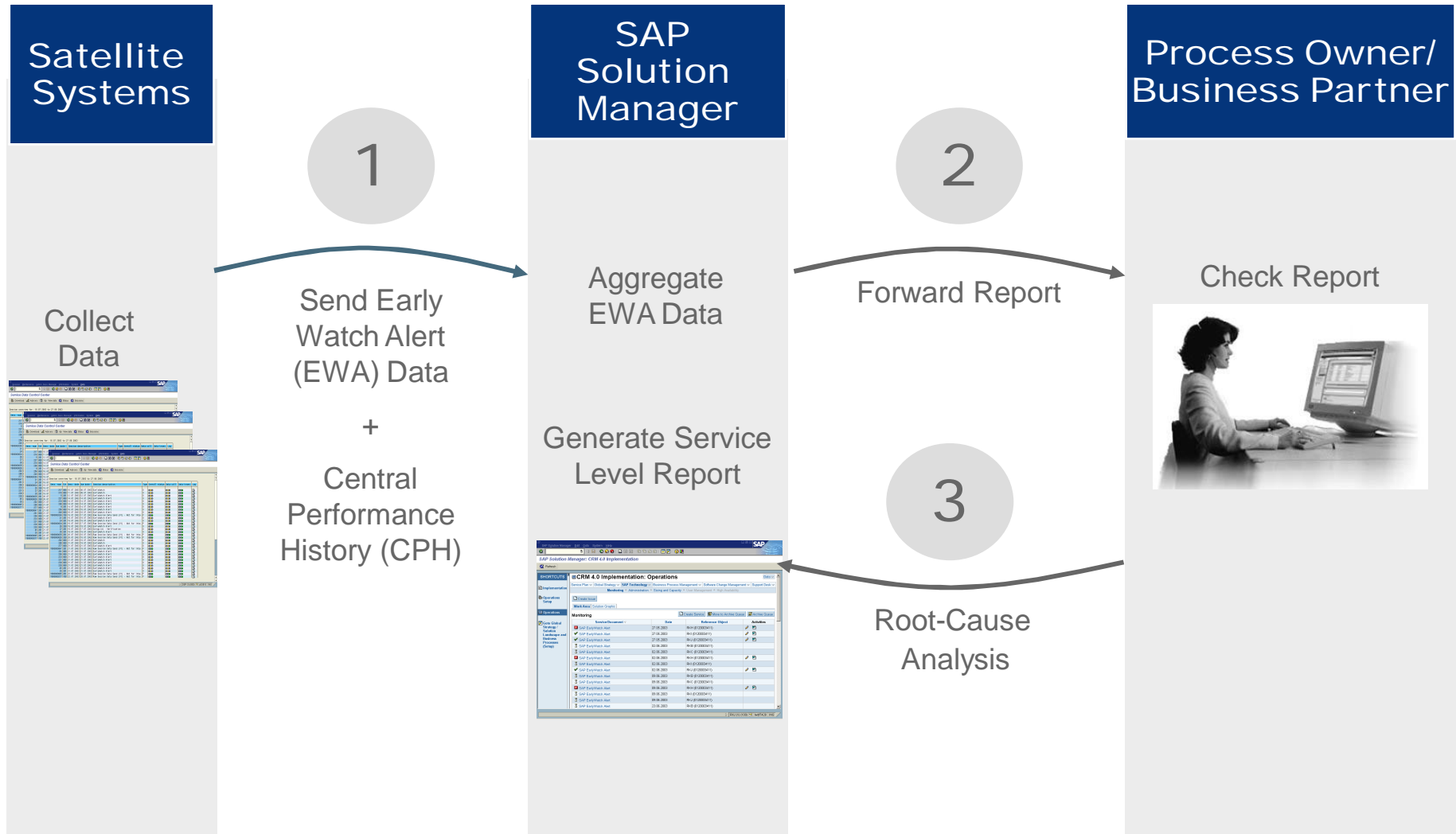
Select Content and Summarize EWA Reports



SAP EarlyWatch Alerts

Continuous Monitoring:
Service Data Download
(SDCC)

Early Watch Alert (EWA) and SL Reporting



Additional Functionality regarding EWA

- Accounting profile (analyse number of dialogsteps, responsetimes, CPU load etc. with the help of SU01)
- Transports (objects, programs, tables -> Tab. E070)
- Average responsetimes of self-defined Transactions
- Aggregated alerts out of Business Process Monitoring (background job reporting possible)
- Trend analysis regarding:
 - System activity
 - Response time
 - System operation
 - Hardware (CPU Load Appl. Server and DB Server)

Service Level Reporting – News with SAP Solution Manager 7.0

Maintenance of thresholds for individual KPIs

Monthly KPI Reporting

- Report Type "Monthly" returns monthly data (used to be based on weekly data)
- Availability since ST-SER 700_2005_2
- Current Limitations:
 - BW for "Query Performance" still weekly.
 - Data for systems < 4.6C still weekly

History for KPIs

- A 12 month history is available for all KPI (Report Type "Monthly,")
- The history is displayed in table and chart format per KPI.

Integration of Central Performance History

SL Reporting - Customizing of Threshold KPIs



Session components Edit Goto System Help

Change Mode: Setup SL Reporting - SLR Bündel A

HTML document Word document Attachments Action List

- Setup SL Reporting
 - Specify SL Report
 - General Settings for SL Report Standard
 - Select Systems for SL Report Standard
 - Report Content for System CTZ 0120007986
 - System Availability
 - System Target KPIs**
 - Select Business Processes for SL Report Standard

System Target KPIs

Automatic rating (Green) Green Yellow Red

+ next open check Service Level Reporting

Target KPIs

Area	Indicator	Target Value	Unit	Rating Strategy
System Performance	Max. Active Users		-	Red alert if indicator exceeds target
	Avg. Availability	95	%	Red alert if indicator falls below target
	Avg. Response Time in Dialog Task	1200	ms	Red alert if indicator exceeds target
	Avg. Response Time at Peak Dialog Hour	1400	ms	Red alert if indicator exceeds target
Query Performance	Max. Dialog Steps per Hour		-	Red alert if indicator exceeds target
	Avg. Total Runtime of the BW Queries		ms	Red alert if indicator exceeds target
Database Performance	Avg. DB Runtime of the BW Queries		ms	Red alert if indicator exceeds target
	Avg. DB Request Time in Dialog Task	600	ms	Red alert if indicator exceeds target
Database Space Management	Avg. DB Request Time in Update Task	800	ms	Red alert if indicator exceeds target
	DB Size		GB	Red alert if indicator exceeds target
Hardware Capacity	DB Growth		GB	Red alert if indicator exceeds target
	Max. CPU Utilization on DB Server	70	%	Red alert if indicator exceeds target
	Max. CPU Utilization on Appl. Server	70	%	Red alert if indicator exceeds target

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SL Reporting - Target Values



Example: Target values and dependent rating

PERFORMANCE INDICATORS

Area	Indicator	Actual Value	Target Value	Rating	Trend
System Performance	Max. Active Users	102	-	—	steady
	Avg. Availability	78.14 %	95 %	✘	steady
	Avg. Response Time at Peak Dialog Hour	1307 ms	1400 ms	✔	steady
	Avg. Response Time in Dialog Task	1245 ms	1200 ms	✘	steady
	Max. Dialog Steps per Hour	12303	-	—	steady
Database Space Management	DB Size	890 GB	-	—	-
	DB Growth	15 GB	-	—	-
Database Performance	Avg. DB Request Time in Dialog Task	392 ms	600 ms	✔	steady
	Avg. DB Request Time in Update Task	299 ms	800 ms	✔	steady

- KPIs, without KPI Targets are displayed without Rating (—)
- Ratings are red (✘) or green (✔)

SL Reporting - KPI History with Target Values



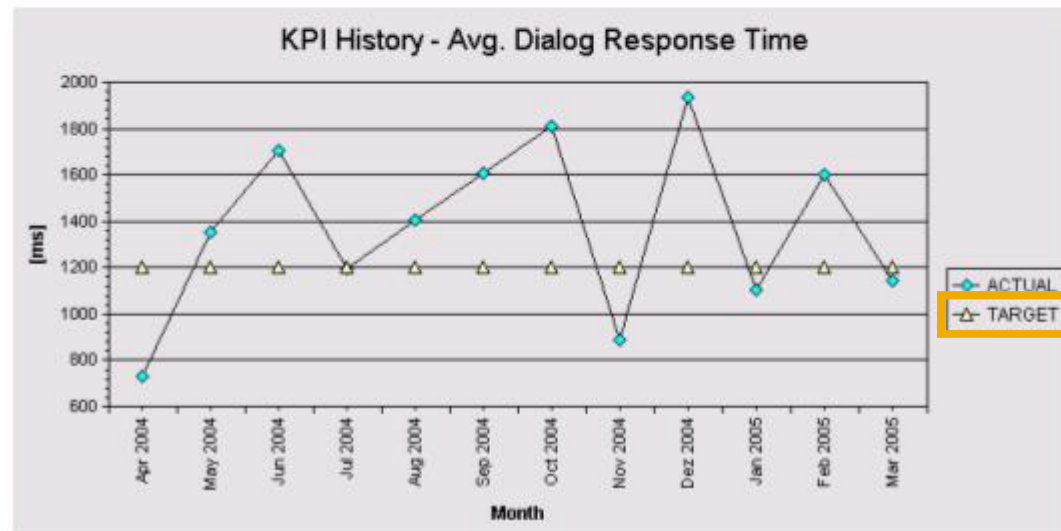
Example: History for KPI "Avg. Response Time in Dialog Task"

KPI HISTORY: AVG. DIALOG RESPONSE TIME

Month	ACTUAL	TARGET	RATING
Apr 2004	734 ms	1200 ms	✓
May 2004	1335 ms	1200 ms	✗
Jun 2004	1703 ms	1200 ms	✗
Jul 2004	1198 ms	1200 ms	✓
Aug 2004	1403 ms	1200 ms	✗
Sep 2004	1609 ms	1200 ms	✗
Oct 2004	1811 ms	1200 ms	✗
Nov 2004	888 ms	1200 ms	✓
Dez 2004	1933 ms	1200 ms	✗
Jan 2005	1102 ms	1200 ms	✓
Feb 2005	1603 ms	1200 ms	✗
Mar 2005	1148 ms	1200 ms	✓

Within target

Out of target





Reporting Concept

EWA Reporting

Service Level Reporting

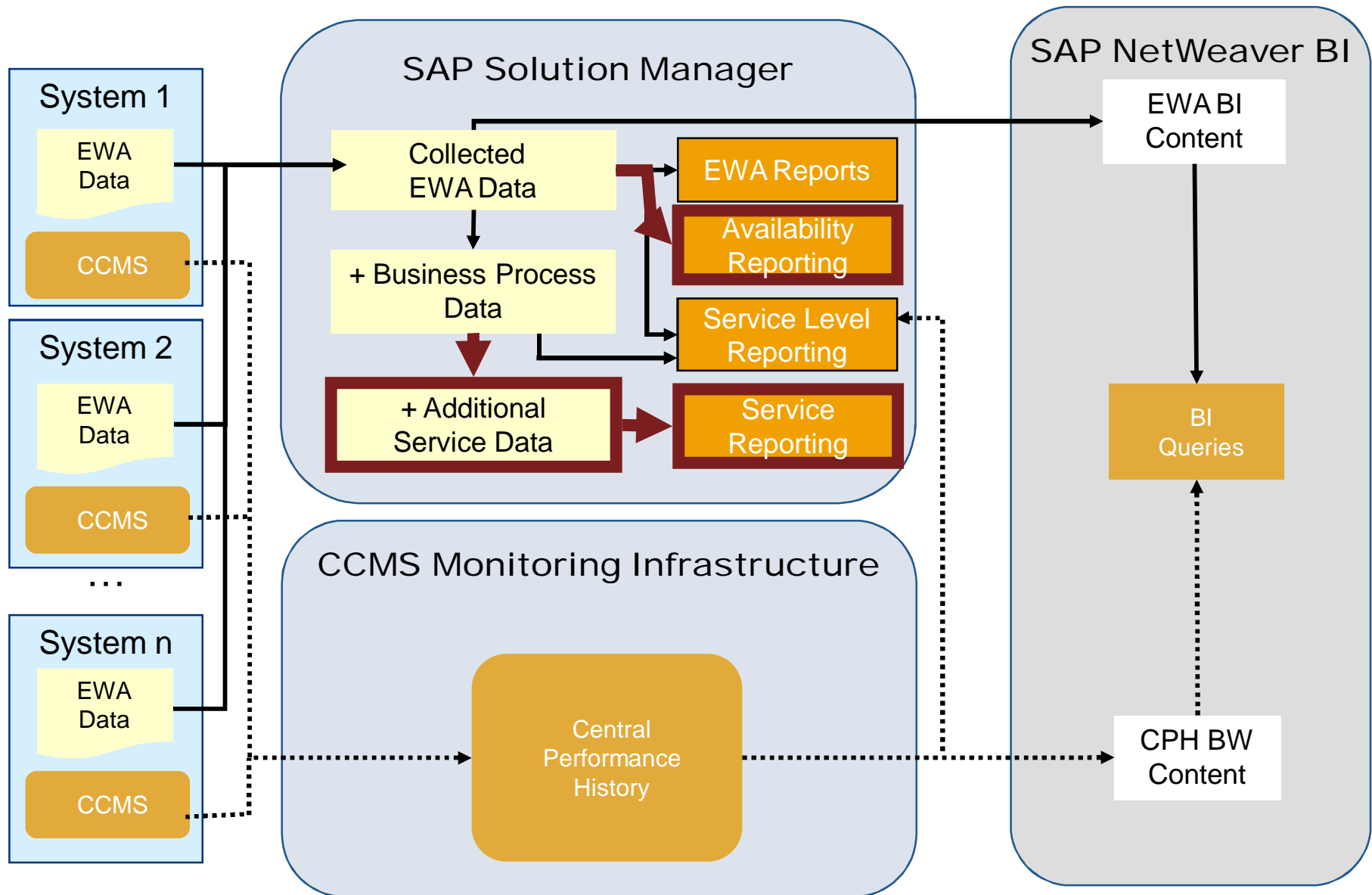
Solution Reporting

Summary

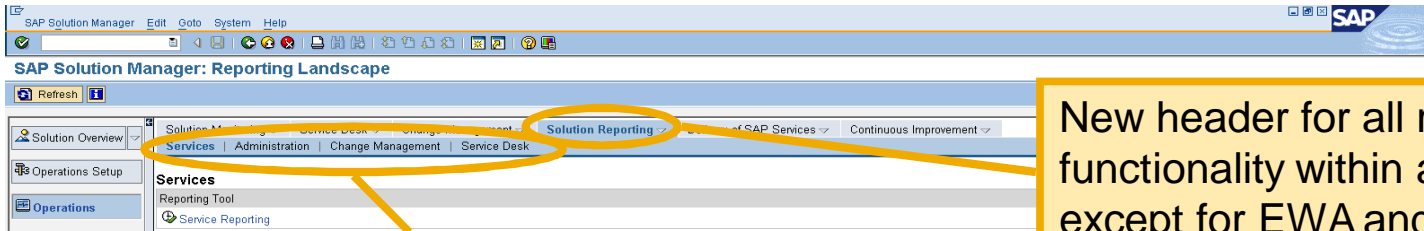
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KPI Reporting Architecture

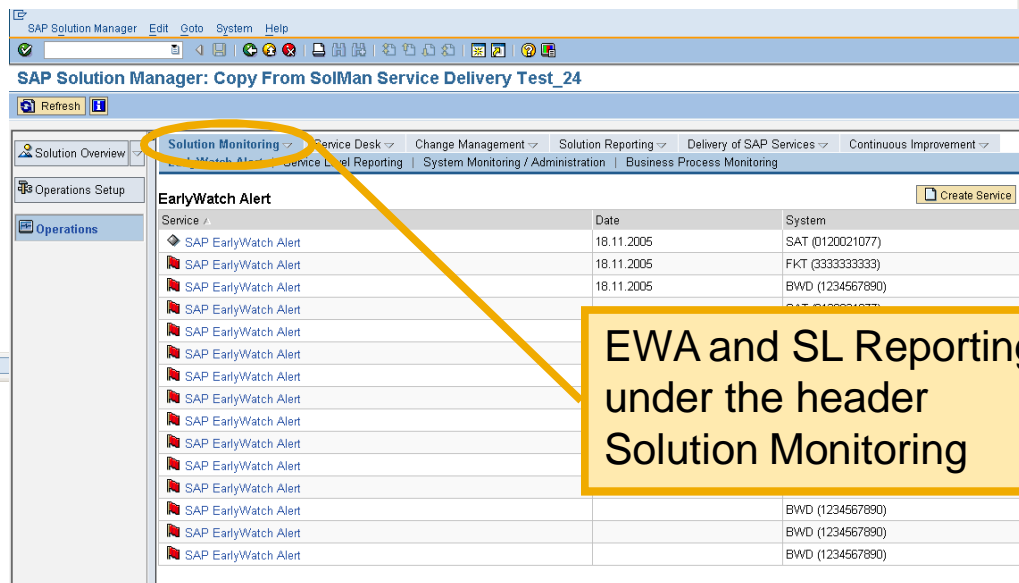


Solution Reporting – New Header in Operations



New header for all reporting functionality within a solution except for EWA and SLR

- New reporting functionalities:
- Service Reporting
 - Central System Administration Reporting
 - Availability Reporting
 - Service Desk Reporting
 - Change Request Management Reporting



EWA and SL Reporting still under the header Solution Monitoring

Management Summary

- This tool allows you to create custom reports for solutions and systems for which you have maintained in transaction SMSY, scheduled a SAP EarlyWatch Alert or GoingLive service.
- You can activate the pre-selected default values, or you can insert or add any other check tables from the SAP EarlyWatch Alert service.
- The results can be displayed in a tree or list view. You can also export the data and process it in Microsoft Excel.
- Once you have configured a report, you can save a variant in order to regenerate the report at any time.

Business Value/Benefits

- Flexible selection of data allows the summary of all relevant solution, system and product data within one list
- Allows IT administrators a fast overview regarding component levels, implemented notes, users and KPIs
- Display of selected data in variants allow clear information for other users like managers and support team members
- Download to Microsoft Excel allows fast integration in self-defined Service Level Reports

Service Reporting - Selection



The screenshot illustrates the SAP Service Reporting selection process. The main window shows the 'Service Reporting' interface with the following elements:

- Service:** A dropdown menu showing 'Earlywatch Alert' selected.
- Reporting about:** Radio buttons for 'System' (selected), 'Installation', and 'All Systems where the selected service was delivered'.
- Reporting Period:** Radio buttons for 'This Week', 'Last Week', and 'Period' (selected). The date range is from 01.11.2005 to 30.11.2005.
- Selection of Reporting Content:** Checkboxes for 'Basic Data' and 'Service Data' are checked. The 'Additional Selection Parameter' is set to 'DEFAULT'.

Callouts and pop-up windows provide further details:

- Selection of standard services:** A callout points to the 'Earlywatch Alert' dropdown.
- Selection of systems to be included:** A callout points to the 'System' radio button.
- Add selection parameters:** A callout points to the 'Maintain Selection Parameter' dropdown.
- Service Selection:** A pop-up window titled 'Service Selection' shows a list of services: 'Earlywatch Alert', 'GoingLive Analysis', 'GoingLive Optimization', and 'GoingLive Verification'.
- System (SID) Select:** A pop-up window titled 'System (SID) Select' shows a list of system IDs: 'C40', 'CT1', 'CT6', 'FKT', 'QB8', 'CT4', 'CTL', 'Q3A', 'H6B', and 'Q4L'.

The bottom window shows the 'Service Content' details for 'Earlywatch Alert', including package 'EW_ALERT', version '35', and selection 'DEFAULT'. It also shows options for 'Basic Data Selection' and 'Service Data Selection'.

Service Reporting - Results



Detailed selection, e.g. compare implemented SAP notes and system parameters (EWA Viewer)

Service Reporting

Get Selection Delete Selection Save Selection

Service Details

Name: Earlywatch Alert
 Package: EW_ALERT
 Version: 33

Basic Data Selection **Service Data Selection**

Add or remove any service session content

Description	Active	Check Group	Check ID	Context				
Hardware	<input type="checkbox"/>	EA_SYSTEM	1	R3_SYSTEM	Hardware	6	<input type="checkbox"/>	
ABAP Dumps	<input type="checkbox"/>	EW_R3_R30P	6	R3_SYSTEM	Total number of Dumps	1	<input type="checkbox"/>	
Update Errors	<input type="checkbox"/>	EW_R3_R30P	37	R3_SYSTEM	Update Errors by Day	2	<input type="checkbox"/>	
Total Users	<input type="checkbox"/>	EA_R3_PERF	4	R3_SYSTEM	Current Workload	1	<input type="checkbox"/>	
CPU Load by Application	<input type="checkbox"/>	EW_R3_WL	3	R3_SYSTEM	CPU Load by Application		<input type="checkbox"/>	
DB Load by Application	<input type="checkbox"/>	EW_R3_WL	3	R3_SYSTEM	DB Load by Application		<input type="checkbox"/>	
Server List	<input checked="" type="checkbox"/>	EW_CAP						

REPORTING Edit Goto System Help

Solution Manager Reporting

Download to Excel

Selection of service data

Add or remove any service session content

Solution Reporting result screen

Flexible list display (ALV)
EXCEL download possible

No.	SID	Inst. Number	Products	Products	Support Packages	Support						
	SID	Inst. Number	Product (e.g. R/3, BW, APO, etc.)	Retail ?	Release	Patch Number	Patch	Type	Total Users	Server	RAM [MB]	Memory used [MB]
1	CT1	0120007965	R/3	46C		DA	SAPKITLQDA	AOI	22	PWDF0531	3903	933
3	CT1	0120007965			46C	3G	SAPKGAT43G	AOI				
4	CT1	0120007965			46C	03	SAPKB46C03	COP				
5	CT1	0120007965			350	03	SAPKA46C03	COP				
1	D21	0020092469	R/3	46C		0A	SAPKITLPOA	AOI	23	SAPDEV100	9614	1005
2	D21	0020092469			46C	39	SAPKH46C39	COP				
3	D21	0020092469			46C	65	SAPKE46C65	COP				
4	D21	0020092469			46C	39	SAPKB46C39	COP				
5	D21	0020092469			46C	39	SAPKA46C39	COP				
6	D21	0020092469			46C	12	SAPK-46C12INSAPNOTES	AOI				

System Availability Reporting - Selection



The screenshot shows the SAP System Availability Reporting Selection screen. The interface includes a menu bar (Program, Edit, Goto, System, Help) and a toolbar. The main content is divided into three sections:

- Reporting about:** Radio buttons for Solution, System (selected), Installation, and All Systems. A text input field contains 'SST' and a button with a right-pointing arrow.
- Reporting period:** Radio buttons for This Week (selected), Last Week, and Period. Below are 'from' and 'to' date input fields.
- Selection of Reporting Content:** Checkboxes for System Availability from EarlyWatch Alert and System Availability maintained by Administrator (checked). A button labeled 'Maintain System Availability' is also present.

Annotations include:

- A yellow box labeled 'Selection of systems to be reported of' pointing to the 'System' radio button and the 'SST' input field.
- A yellow box labeled 'To selection details' pointing to the 'Maintain System Availability' button.
- A yellow box labeled 'Manual maintenance of system availability (status of system availability has often to be clarified personally with customers)' pointing to the 'System Availability maintained by Administrator' checkbox.

At the bottom right, the status bar shows 'SMD (1) 200', 'us4295', and 'INS'.

System Availability - Manual Maintenance



The screenshot shows the SAP System Availability Manual Maintenance interface. It includes a menu bar (Reporting, Edit, Goto, System, Help), a toolbar, and a main window titled 'System Availability'. A sub-window 'PLANNED' is open, showing a list of options: 'Planned Downtime', 'Yes', 'No', 'Emergency Downtime', and 'Business Process'. A yellow callout box points to this list with the text 'Standard options (can be modified)'. Below the main window, a table displays system availability data. The table has columns: N, SID, Installation, Date, Planned, Downtime from, Downtime up to, and Reason of downtime. The first row shows: 1, SST, 120007985, 01.09.2005, a checked checkbox, 01:00:00, 06:00:00, and Hardware Maintenance. A yellow circle highlights the 'Planned' checkbox, and another yellow circle highlights the 'Reason of downtime' column. A sub-window 'REASON' is open, showing a list of reasons: 'Text', 'DB Environment', 'Application Server Environment', 'Network', 'OS/Hardware Maintainance', 'Interfaces', 'Software failure', and 'Others'. A yellow callout box points to this list with the text 'Standard reasons (can be modified)'.

N	SID	Installation	Date	Planned	Downtime from	Downtime up to	Reason of downtime
1	SST	120007985	01.09.2005	<input checked="" type="checkbox"/>	01:00:00	06:00:00	Hardware Maintenance

System Availability Reporting - Results



System Availability Reporting

Reporting results

SID	Installation number	Date	Availabil	Comments	Planned	Downtime f	Downtime u	Reason
STE	0120021077	20050905	100	Protocol data				
STE	0120021077	20050904			X	120000	123000	Implement Notes
STE	0120021077		96	No protocol d				
STE	0120021077	20050903	100	Protocol data				
STE	0120021077	20050902	100	Protocol data				
STE	0120021077	20050901	100	Protocol data				
STE	0120021077	20050831	100	Protocol data				
STE	0120021077	20050830	100	Protocol data				
STE	0120021077	20050829	100	Protocol data				

SMD (1) 200 us4295 INS

Availability Reporting result screen

Typical Questions to be answered by Service Desk Reporting

How many incidents were reported?

- For a given time intervall, per organization, per SAP component

How long did it take to complete incidents?

- Overall and specific
- How many were solved with the internal solution database? How many with SAP notes? How many with help from SAP?
- How many were converted into how many change requests?

Which incidents are in process/completed ...?

- By service desk employee/organization

Service Desk Reporting - Selection



Selections Edit Goto System Help

Analysis Service Desk Messages

Analysis Type

- Organizational Units
- Status Analysis
- Solution Information

Time Interval

Posting Date [] to []

Time of Change [] to []

System Attributes

System/Base []

Installation Number []

System ID []

Client []

Business Partner

Message Attributes

Priority []

SAP Component []

Category []

System Status

Open In Process Released Completed

User Status []

Subject

Subject []

Catalog []

Code Group []

Code []

Used for message solution...

Solution database was used

Solved By SAP Note

Message Created Change Request

Grouping

SAT (1) 200 us4311 INS

Selection Screen



Typical Questions to be answered by ChaRM Reporting

Which change requests are in process/completed ...?

- By status, type, next steps , maintenance window

How long do change requests take to be completed?

- Per organization, user, type, step

Which transports belong to which change request and vice versa?

What is the current transport status (in which system)?

How many incidents triggered a change request?

- Per organization, SAP component

How many change requests were declined?

- Per organization, user, type, by whom and why

Change Management Reporting - Selection



Program Edit Goto System Help

Change Management Reporting

Reset Selection Fields

Solution Reporting Landscape

Result List

Display Header

Layout

Maximum Number of Hits 100

Transchn Data

Document Number to

Posting Date to

Transaction Type to

Description to

External Reference Number to

Service ID to

Created On to

Created By to

Changed On to

Last Changed By to

Request Category to

Status

Completed/Not Completed Documents

Not Completed Completed All

Syst. Status

Open In Process Released Complt

Other Status to

Organizational Unit

Proj.Header

System Data

Support Packages

Transport Reqsts

Transp. Objects

Status of Data: 19:14:44 09.11.2005

SAT (1) 200 us4311 INS

Selection Screen



Reporting Concept

EWA Reporting

Service Level Reporting

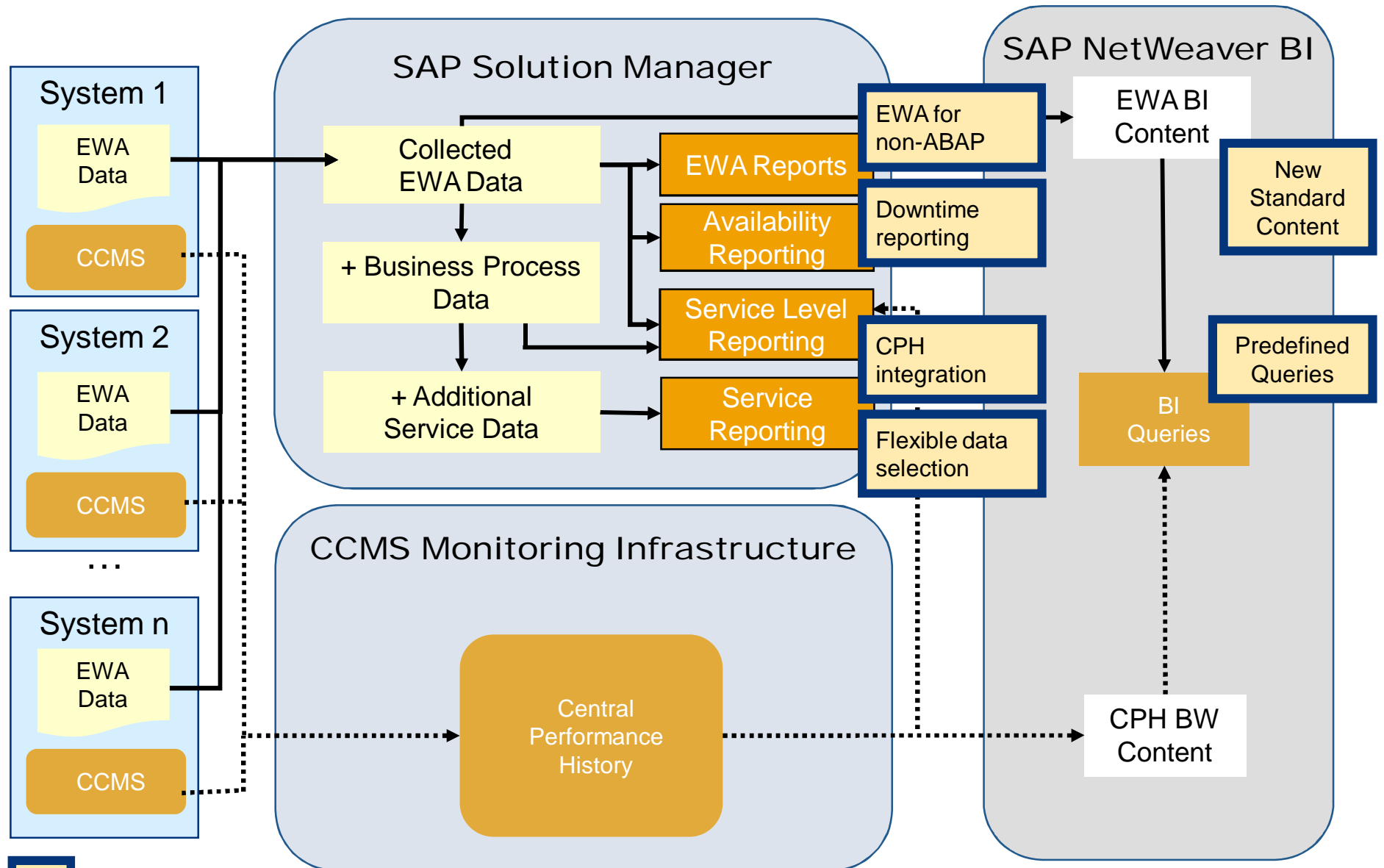
Solution Reporting

Summary

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Solution Reporting - Technical Content and KPIs



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