From Chaos to Control – How Jabil Automated User Access Reviews Across Multiple SAP Landscapes

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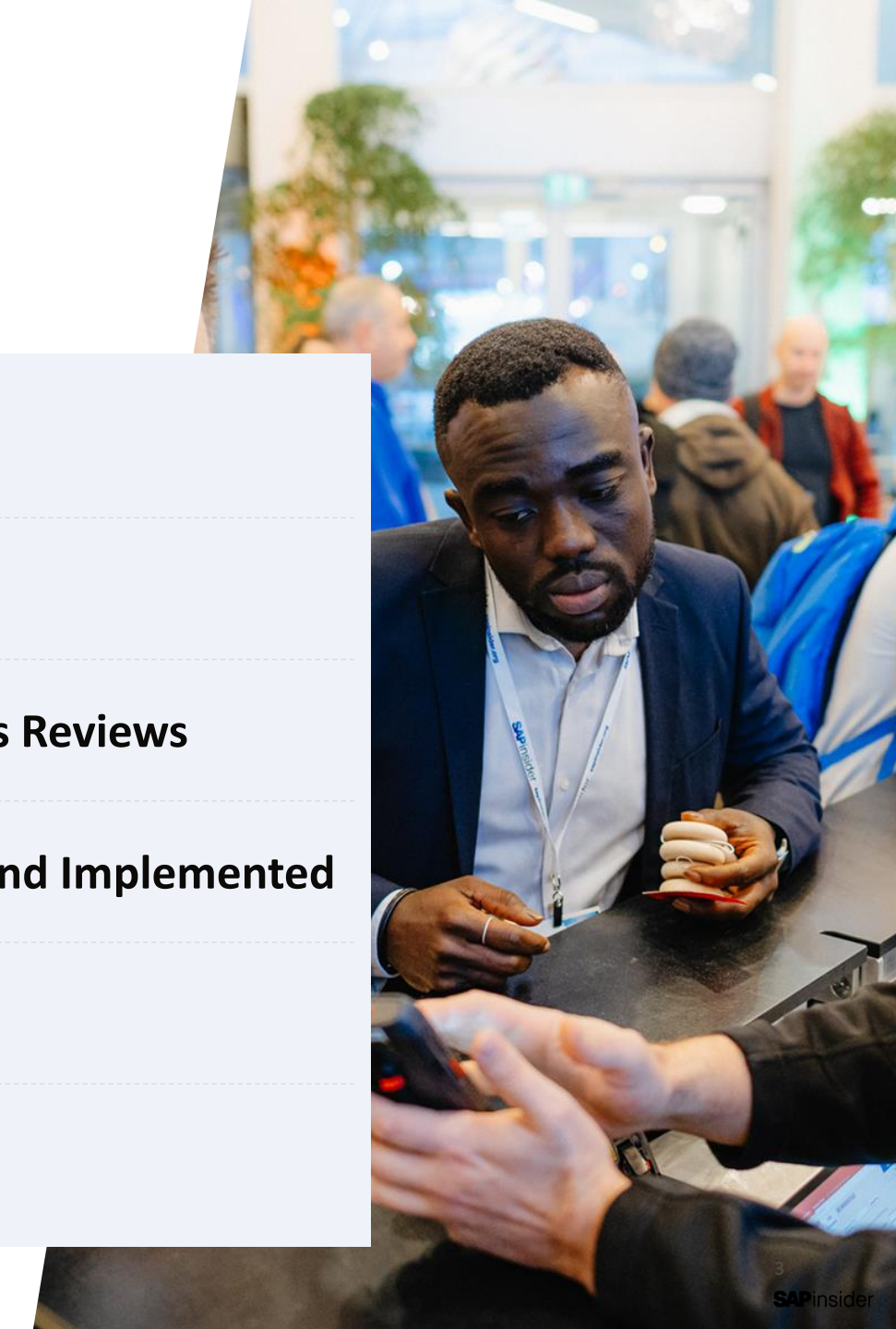
SAPinsider

In This Session

- Learn how to navigate process design decisions related to moving access review processes for multiple production systems into GRC Access Control.
- Understand the benefits of leveraging Access Control to automate access reviews.
- Establish future-state governance processes.
- Discuss lessons learned
- Identify and leverage key metrics to measure value and success.

What We'll Cover

- About Jabil
- Our SAP Environment
- Legacy Process Pain Points with Access Reviews
- Future State Processes We Designed and Implemented
- Lessons Learned
- KPIs We Used To Measure Success



About Jabil

In this section we'll provide an overview of our organization.

Jabil Today: Built on a Solid Foundation

50+
YEARS OF CROSS-INDUSTRY EXPERIENCE

140K+
DEDICATED EMPLOYEES

$34.7B
REVENUE IN FY23

$30B
GLOBALLY MANAGED SPEND

36K+
SUPPLY CHAIN PARTNERS

400+
CUSTOMERS ACROSS DIVERSE MARKETS

100+
SITES STRATEGICALLY LOCATED AROUND THE WORLD

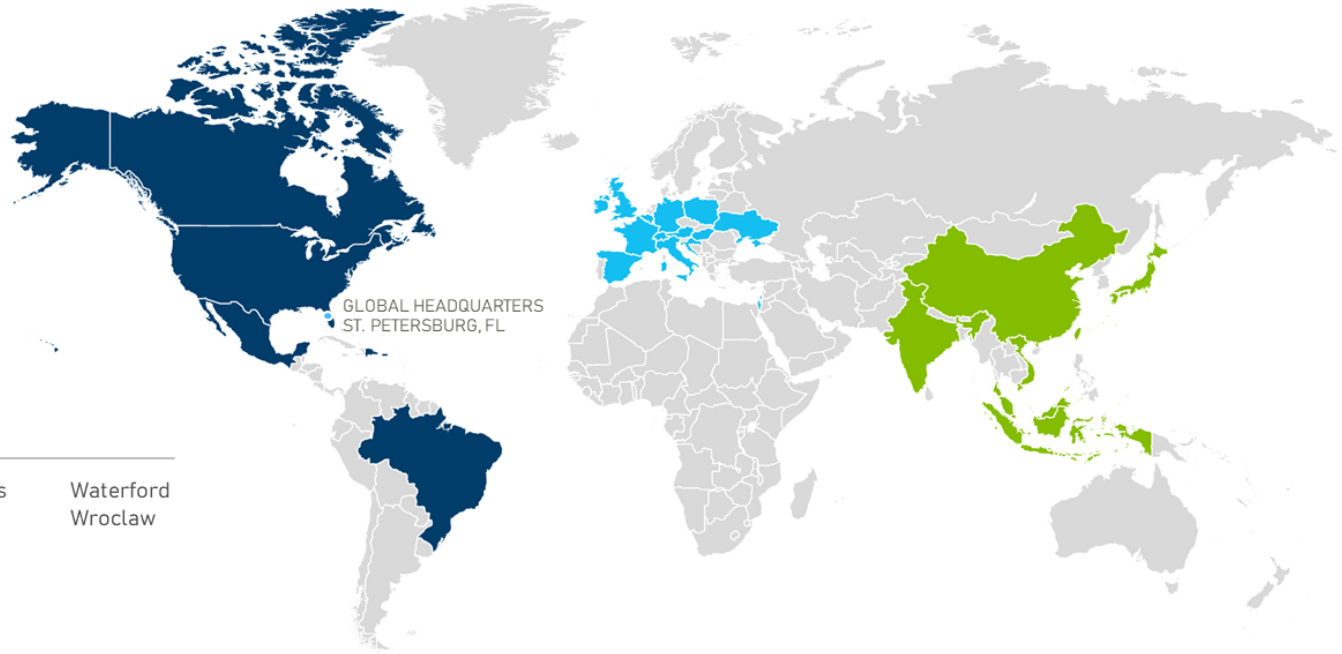
25+
COUNTRIES

41M+
SQUARE FEET OF MANUFACTURING SPACE

Global Operations Enable Manufacturing at Scale

100+ Sites

Strategically Located Around the World



ASIA

Bandung	Hachioji	Neihu	Shenzhen	Tianjin
Batu Kawan	Ho Chi Minh	Penang	Singapore	Weihai
Beijing	Hsinchu	Pune	Sungai Petani	Wuhan
Changhua	Huangpu	Sanchong	Suzhou	Wuxi
Gotemba	Kulim	Shanghai	Taichung	

EUROPE & MIDDLE EAST

Balsthal	Dublin	Kharkiv	Mezzovico	Tiszaújváros	Waterford
Bar-Lev	Grenchen	Kwidzyn	Nagyigmand	Tortosa	Wroclaw
Bettlach	Hägendorf	Livingston	Osijek	Tuttlingen	
Bray	Hasselt	Le Locle	Paris	Uzhgorod	
Coatbridge	Jena	Marcianise	Raron	Vienna	

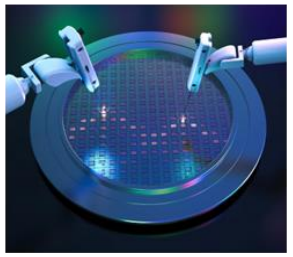
AMERICAS

Albuquerque	Auburn Hills	Burlington	Chihuahua	Grand Junction	Juarez	Maple Grove	Monterrey	Pleasanton	San Jose	Valinhos
Anaheim	Austin	Cayey	Clinton	Guadalajara	Lexington	McLean	Monument	Richardson	Santo Domingo	Vancouver
Asheville	Belo Horizonte	Chaska	Florence	Gurnee	Manaus	Mebane	Mount Pleasant	Richmond	St. Petersburg	West Chester
Atlanta	Benicia	Chicago	Fremont	Hanover Park	Manteca	Memphis	Ottawa	San Cristobal	Tijuana	

Tailored Solutions Backed by Cross-Industry Expertise

5G Wireless

Automotive & Transportation



Capital Equipment

Cloud Infrastructure

Connected Devices

Digital Commerce

Digital Print

Defense & Aerospace

Healthcare

Energy Storage & Management

Networking & Storage

Optics

Packaging

Renewable Energy

Smart Home & Appliances

Warehouse Automation

About Jabil

- In this section we will provide an overview of our SAP landscape.
- We'll also provide an overview of our GRC landscape.

Our Current SAP Landscape

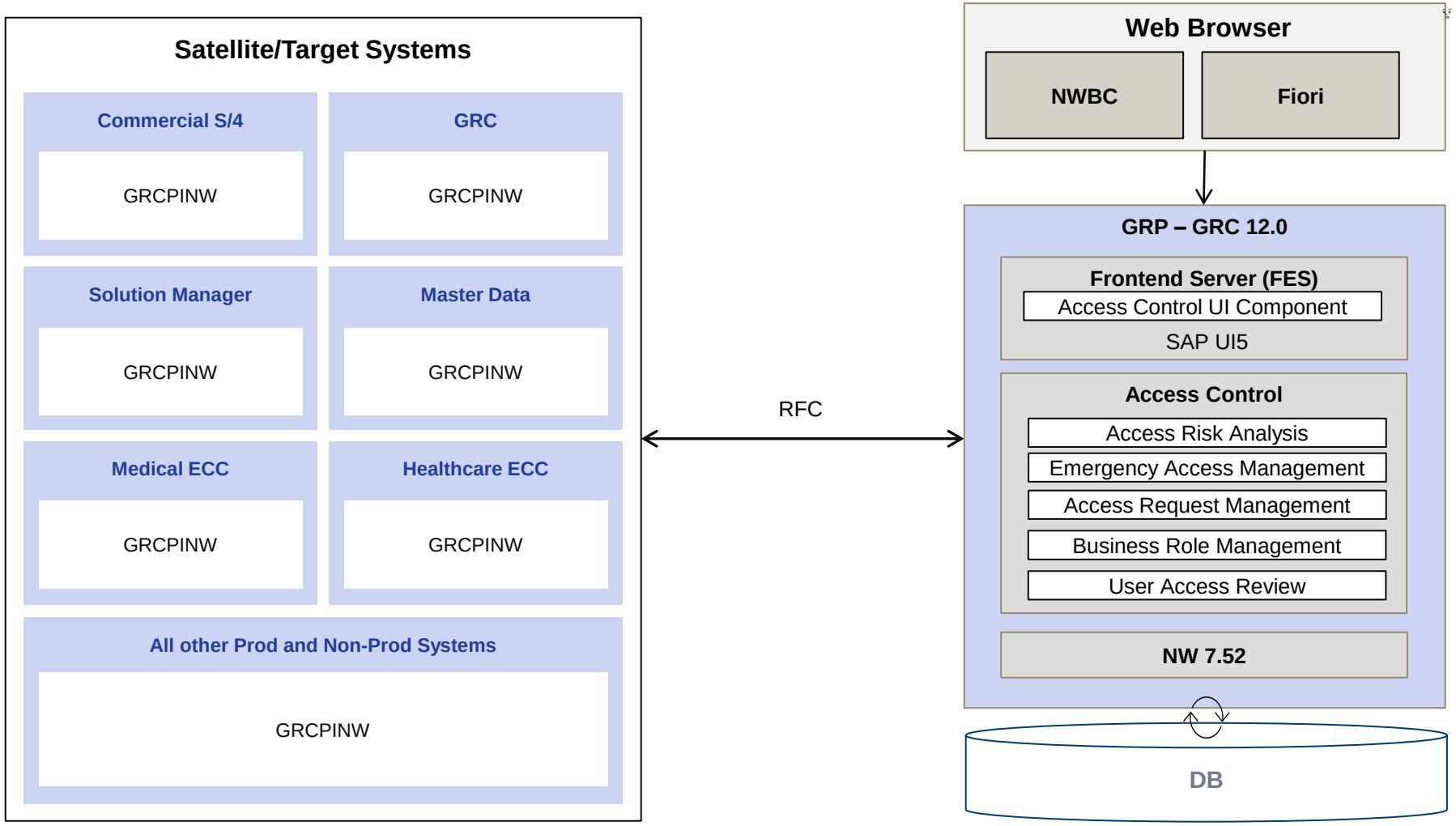
We have seen tremendous growth in our business as well as growth through acquisition which has led to a much more complex landscape than our single SAP landscape, we lived in many years ago.

SAP Systems	Active Users	Comments / Notes
S/4HANA (Commercial)	~36,000	Recently upgraded to S/4HANA
ECC (Nypro Healthcare)	~4,200	S/4HANA upgrade planning in process
ECC (Medical)	~4,000	S/4HANA upgrade planning in process
GRC	~15,000	Upgraded to SP14 May 2022, planning upgrade to latest SP in 2024
MDG	~4,500	-
Solution Manager (SOLMAN)	~900	-

GRC Architecture and Landscape

- GRC Access Control 12.0 with limited functionality implemented for Process Control.
  - A 3-tiered + 1 landscape with sandbox system.
- Access Control is connected to production and non-production systems.
  - Access provisioning is configured to sandbox, development, staging and production systems across multiple SAP clients.
    - Over 90 connectors!
- We deployed all core functionality in Access Control but were not using UAR until this project.

Production Technical Landscape Diagram



Scope and Legacy Processes Pain Points

In this section we will discuss:

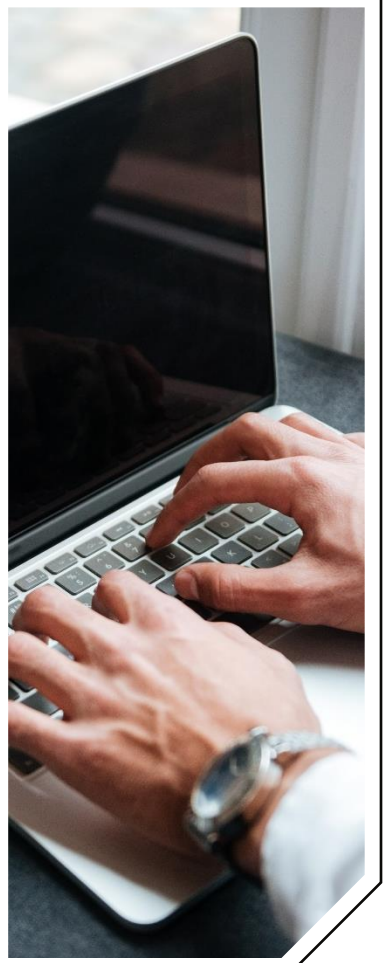
- Overview of our legacy processes
- Pain points associated with the legacy processes.
- Scope of controls which were being impacted.

Scope of Controls

Control Area	Risk Statement	Example Control Description
User Access Review (UAR)	The risk of end user accounts having inappropriate access within SAP.	A review of dialog user accounts is performed by the user's manager to ensure that users have the appropriate access according to their job responsibilities.
Critical Transaction Access Review (CTAR)	The risk of a user **having** critical access in production	A review of SAP dialog and service user accounts must be performed to ensure the appropriateness of access to critical transactions.
Critical Transaction Execution / Usage Review (CTER)	The risk of user and generic non-human accounts **executing** critical access in SAP (e.g., SAP_HELP)	A review of the critical transactions executed by SAP dialog and service accounts is performed to ensure that their usage was appropriate.
Firefighter Session Review (FFSR)	The risk of elevated access being performed without a **timely detective review**.	A review of the Firefighter activity logs is performed by Firefighter Controllers for Firefighter ID use in the production environment.

Pain Points from Legacy Process

- **Extensive hours of manual report manipulation**, with formulas in excel to find Managers, Manager User IDs, filter out certain criteria (e.g., removing generic access).
- **Manual communication** reminders
- **Detailed documentation and reports for audit** (multilayer excel files that captured every step of the process)
- Required to **manually submit various tickets** for the different type of removal scenarios.
- **Manual access removal process** for the security team would take at least a week.
- **Disconnect between systems due to the lack of data synch**. Managers wouldn't be in Quality but would be in Production.
- **Time was needed for testing the workflow each review** through development, staging/QA and production before launching the review.
- **Lack of resources with knowledge of the legacy tool** due to its age.



User Access Review (UAR) Automation

In this section we'll cover:

- Future state UAR process
- Key design decisions
- Overview of the process flow
- UAR prerequisites
- Completeness and accuracy checks
- Lessons learned

Overview of GRC UAR Automation

We evaluated various tools from other vendors and agreed on moving forward with GRC Access Control.
Leveraged our existing SAP GRC Access Control system to support the process with an automated workflow-based review and approval.

Access Control offers the following improvements from our current state:

1. Centralized and automated process for periodic access review
2. Automated removal of access, reducing reliance on additional tickets and SAP security resources
3. Ability to centrally monitor status of the reviews
4. Audit trail and reports for supporting audit teams
5. Reduction in manual tasks to improve control performance
6. Increased effectiveness and visibility to incomplete user access reviews

Participants in the UAR Process

GRC includes the following participants that can appear in UAR:

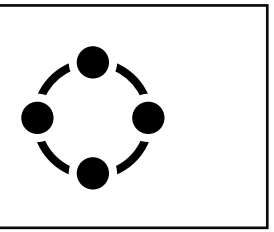
GRC Role	Description of Responsibilities	Jabil Resource Responsibility
 **UAR Administrator**	Administrators will perform UAR-specific administration tasks, such as generating, cancelling and regenerating UAR requests for rejected users. Administrators will also perform admin reviews before generating a workflow for the request.	SAP COE Governance Team
 **UAR Reviewer**	Approvers at the Reviewer stage. The direct manager of a user, as defined in Active Directory as the source.	User's Direct Manager
 **Coordinator**	Users assigned to Reviewers. Coordinators monitor the UAR process and coordinate activities to ensure that the process is completed in a timely manner.	SAP COE Governance Team

Process Design Decisions

	Design Decisions	Configuration Parameter ID
1	Manager will perform review	2006
2	Notifications sent to end user when access removed	2062
3	One UAR request per Reviewer with all users in request	2064
4	The GRC Admin will review the requests before sending out	2007

Param ID	Parameter Value	Description
4018	YES	Enable detailed logging (SLG1) for EAM Log Synchronization programs
4020	YES	Generate EAM log for Firefighter sessions with no activity
4025	YES	Restrict Firefighter Validity period during Access Request
4027	NO	Set Ticket selection to mandatory in EAM Logon Pad
5033	NO	Allow Firefighters with no controller
2004	011	Request Type for UAR
2005	009	Default Priority
2006	MANAGER	Who are the reviewers?
2007	YES	Admin. review required before sending tasks to reviewers
2008	500	Number of line items per UAR request
2062	YES	Send notification to users whose access is removed
2063	YES	Show approved lineitems in UAR Audit Log
2064	NO	One UAR request per user
2065	NO	Allow reviewer to approve own assignments
1120	1000	Batch size for Batch Risk Analysis
1121	1000	Batch size for User sync
1122	1000	Batch size for Role sync
1123	1000	Batch size for Profile sync
2050	YES	Enable Realtime LDAP Search for Access Request User.

IMG Configuration Path: GRC → Access Control → Maintain Configuration Settings



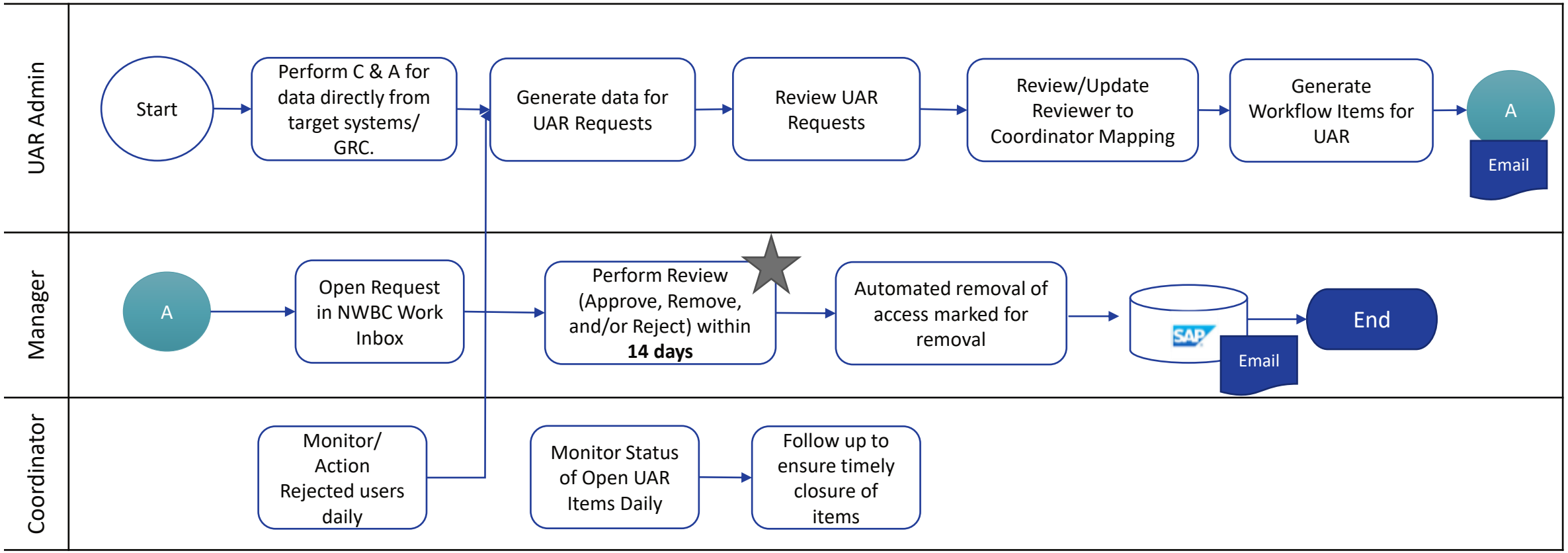
Process Design Decisions

	Design Decisions	Configuration Area
1	Coordinator for all review items will be SAP COE Governance team	Process Design
2	SAP security team will not be included in the review process	Workflow Config
3	Separate review for each system (large data volume)	Process Design
4	Users with failed login locks will be included in the review	Plug-in Config Parameter
5	Reviewers cannot forward request	Workflow Config
6	Request will not be escalated but reminder emails will be sent to Managers after 2 days	Workflow Config
7	Review due 14 days after review request is sent	SLA Config

UAR Process Flow

UAR Process will now be managed within SAP GRC Access Control

Workflow based review sent to Managers for review of roles assigned to users for key SAP systems



UAR Prerequisites

Sync Jobs

- The below sync jobs must also be executed in sequence for all in scope connectors before generating UAR requests, however, all of these jobs are scheduled to run incrementally and as full syncs and is managed by the job scheduling tool.
- The Repository Object Sync needs to be executed for the LDAP connectors prior to generating the UAR. A full sync for these connectors have to be run prior to generating the UAR data.
- The job populates users that are included in the UAR and the Managers data in the GRC repository (table: GRACUSER).

Role Maintenance / Import

- Any role assigned to a user in the target system must be imported into BRM in order for the assignments to be included in UAR.
- Critical level of roles that need to be included in UAR have to be marked as High criticality (value of Low is excluded).
- Methodology status has to be Complete.
- Provisioning settings must be set to Yes.

Reviewer Account Status

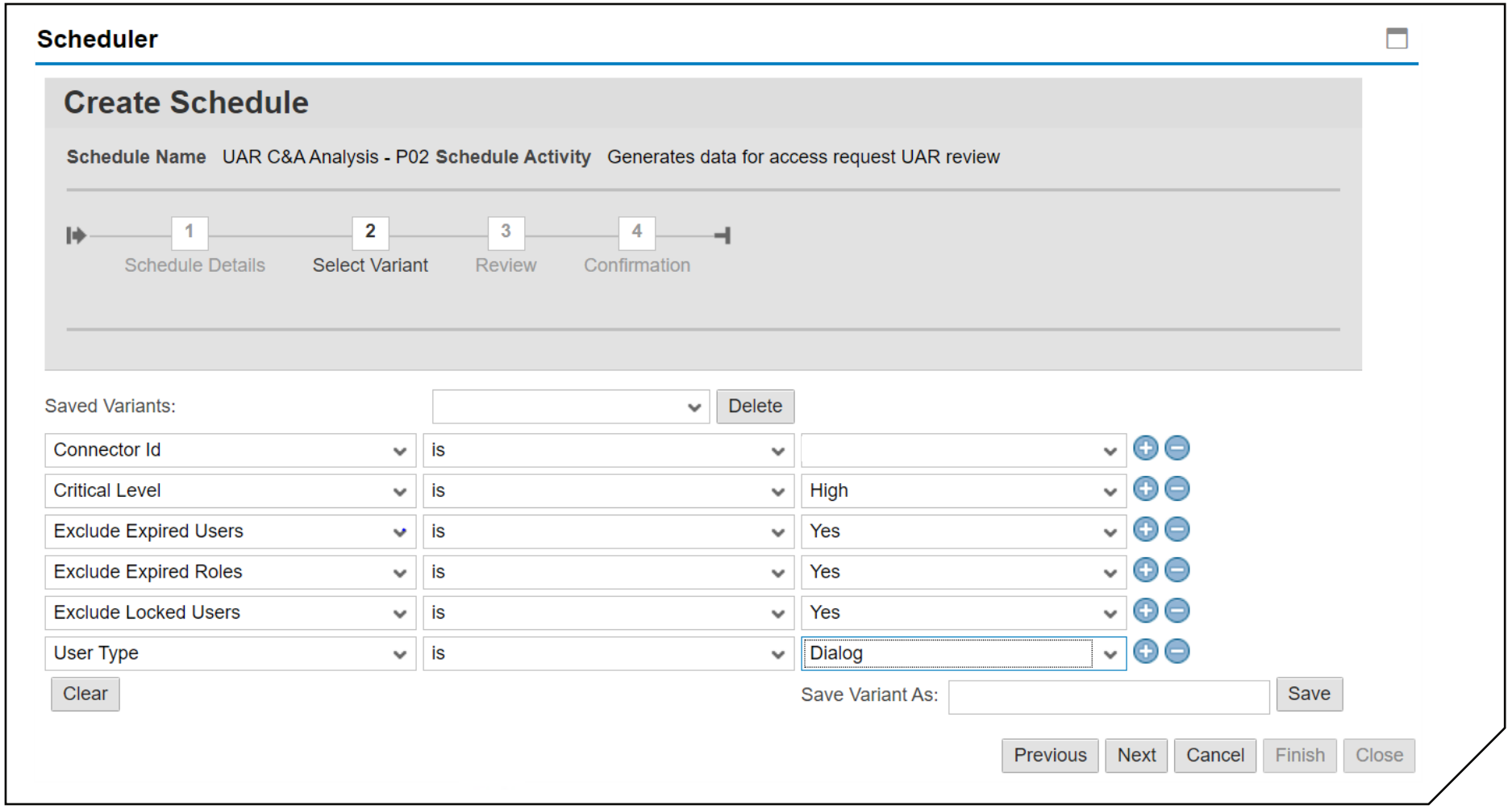
- All reviewers synchronized as Managers (GRACUSER) must have an active and valid user account within GRC Production (USR02).

UAR Criteria

	Filter Criteria	Value	Comments
1	**Connector ID**		Select by connector ID
2	**Critical Level**	High	Excludes low risk roles which are currently auto approved
3	**Excluded Expired Users**	Yes	Based on user validity dates
4	**Excluded Expired Roles**	Yes	Based on role validity dates
5	**Exclude Locked**	Yes	Yes – excludes all lock values, except failed login locks No – includes all locked users
6	**User Type**	Dialog	Include only end user accounts with Managers

Note: Non-human IDs will not be included; these are covered as a separate review

UAR Criteria



Completeness and Accuracy Checks

Extract data from target systems → **Extract synchronized data from GRC AC** → **Validate data used within UAR requests** → **Compare data sets using filtering criteria** → **Document any deviations**

Why?

- Confirm that all user and role assignments are being included in the review process
- Ensure we can demonstrate this to audit

Our Challenge:

- The UAR process we have designed leverages Manager as the reviewer
- This configuration relies on Active Directory
- **Important**: The Access Control UAR functionality for reviewing access starts with role data synced into AC – it does NOT start with what is in the target systems.
- **Also Important**: Synchronization jobs are critical to completeness; if they're not working correctly then there will be gaps in the UAR data collection and review.

Completeness and Accuracy Checks

1. **Extract data from target systems**
2. Extract synchronized data from GRC AC
3. Validate data used within UAR requests
4. Compare data sets using filtering criteria
5. Document any deviations

Key tables to extract from target systems:

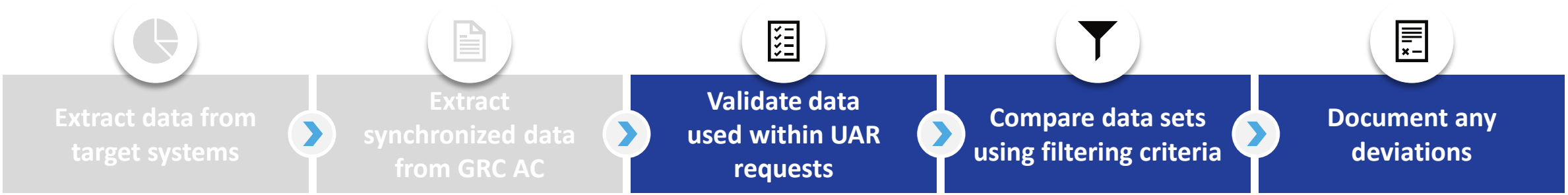
- USR02 – table of users, user type, and user lock status
- AGR_USERS – table of user to role assignments
- Apply Filter Criteria for User Type=Dialog (A); Users which are not locked

Completeness and Accuracy Checks

Key tables to extract from GRC AC system:

1. USR02 - table of users, user type, and user lock status
2. GRACUSER – user master record for list of users from LDAP connector(s)
3. GRACUSERCONN – user details by system connector
4. GRACROLE – roles which are imported into GRCAC BRM module with role ID and name by connector group
5. GRACREQ – request numbers to request ID relationship filtered by Job ID
6. GRACREVITEM – table with request ID, user ID, and role ID
7. GRACREVCORDMAP – table with reviewer to coordinator mapping

Completeness and Accuracy Checks



Validation Checks:

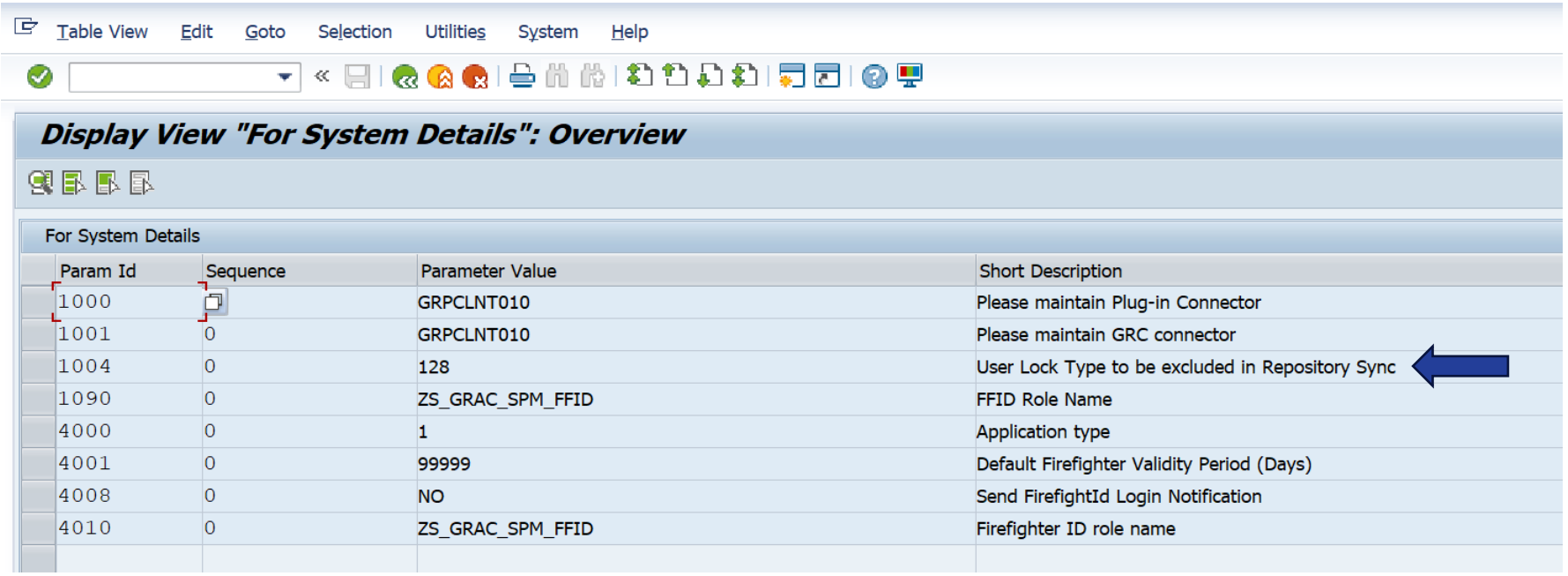
1. To identify and validate the user lock status between the target system and GRC
2. Precheck No. 2: To identify and validate the user validity date between the target system and GRC
3. Precheck No. 3: To identify and validate the roles in GRC Business Role Management (BRM) (e.g., critical level, provisioning status)
4. Precheck No. 4: To identify users that are not in Active Directory
5. Precheck No. 5: To identify managers of users that are not in Active Directory
6. Completeness & Accuracy (C&A) Check: To identify if a User-Role Assignment is missing from the UAR data
7. Exclusions for generic IDs or other accounts which will not be part of this UAR process.

Important: Investigate and document any deviations since; timing of jobs and analysis created variances in our largest system due to the volume of access changes.

Password Parameters

We made a design decision to include users with failed password locks will be included.

Note: This is configured with parameter 1004 on each target (plug-in) system.



Param Id	Sequence	Parameter Value	Short Description
1000		GRPCLNT010	Please maintain Plug-in Connector
1001	0	GRPCLNT010	Please maintain GRC connector
1004	0	128	User Lock Type to be excluded in Repository Sync
1090	0	ZS_GRAC_SPM_FFID	FFID Role Name
4000	0	1	Application type
4001	0	99999	Default Firefighter Validity Period (Days)
4008	0	NO	Send FirefightId Login Notification
4010	0	ZS_GRAC_SPM_FFID	Firefighter ID role name

IMG Configuration Path: GRC (Plug-in) → Access Control → Maintain Plug-In Configuration Settings

UAR Lessons Learned

1. Need to actively monitor UAR requests that are rejected to ensure deadlines can be met
   - A rejected request is created as a new UAR request with a new due date from the date of creation
2. Verify managers are unlocked and valid prior to launch.
3. Consider the end user experience and accessing GRC consistently (e.g., we have multiple entry points through portals, Fiori, and NWBC)
4. How to handle completeness and accuracy
5. Active Directory synchronization and relationship to GRC system
6. How to address non-human IDs
7. Importance of accurate user and role master data (e.g., criticality of roles, manager data, etc.)

UAR Lessons Learned (Continued)

- Manual communication plan / escalation.
- An SAP popup was added for users who were going to be impacted be access removal due to a missing UAR
- We manually send reminders out to be able to manage the communications more specifically (days 2, 9, 15, 28)
- Managers that do not complete the review will result in a force closure of the request and removal of access their team members.

Critical Transaction Access Review

In this section we'll cover:

- Future state critical transaction access review (CTAR) process
- Key design decisions
- Overview of the process flow
- Prerequisite tasks

Overview of Critical Transaction Access Review

Replacement of the current tool which was used to support the critical transaction access review (CTAR) process and was semi-automated through a workflow.

Leveraged the out of the box SOD Risk Review workflow, but tailored it for just Critical Access

We configured the ruleset with our critical access risks and utilized the existing GRC AC functionality to automate the process

Participants in the CTAR Process

GRC includes the following participants that can appear in CTAR:

GRC Role	Description of Responsibilities	Jabil Resource Responsibility
Administrator	Administrators will perform CTAR-specific administration tasks, such as generating, and regenerating CTAR requests. Administrators will also perform admin reviews before generating a workflow for the request.	SAP COE Governance Team
Risk Owner / Reviewer	Responsible for performing a review of user access which contains IT critical access risk as defined in the GRC ruleset.	SAP IT Director
Coordinator	Users assigned to Reviewers. Coordinators monitor the CTAR process and coordinate activities to ensure that the process is completed in a timely manner.	SAP COE Governance Team

Process Design Decisions

	Design Decision
1	Critical access will not be assigned to any end user accounts (exception for NW team)
2	Critical transaction access review will include risks defined as “Critical”
3	Critical transaction access review will include dialog & service accounts (excluding Firefighter IDs)
4	Critical transaction access review will automatically remove role(s) with critical access
5	Review due 14 days after review request is sent

Process Design Decisions

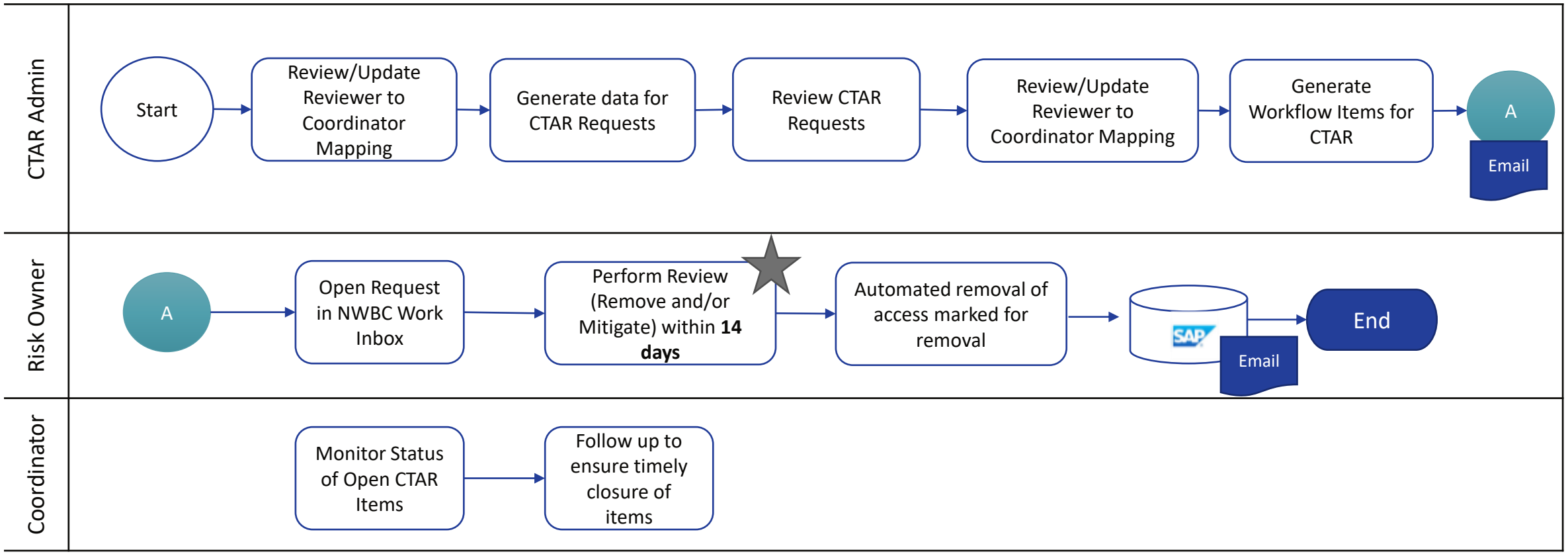
- Parameter 2018 was set to define the reviewer as the Risk Owner – maintain in the ruleset master data
- Parameter 2023 was set to perform the actual removal of the role with critical access.

SOD Review	2016	010	Request Type for SoD
SOD Review	2017	015	Default priority for SoD
SOD Review	2018	RISK OWNER	Who are the reviewers?
SOD Review	2019	YES	Admin. review required before sending tasks to reviewers
SOD Review	2020	9999	Number of unique line items per SOD request.(Maximum 9999)
SOD Review	2021	NO	Allow reviewer to approve own assignments
SOD Review	2023	YES	Is actual removal of role allowed

IMG Configuration Path: GRC → Access Control → Maintain Configuration Settings

CTAR Process

This process will now be managed within SAP GRC Access Control
Workflow based review of all critical access by role assigned to users



Critical Transaction Access Review Prerequisites

Sync Jobs:

- In addition to the user and role synch jobs,
- Ensure Batch Risk Analysis Job is scheduled and running

Configuration:

- The parameter for storing batch risk analysis as offline data should also be enabled (parameter 1027 – Enable offline risk analysis).
    - The job which collects the information for the workflow relies on the SOD results that are already stored in the GRC tables.

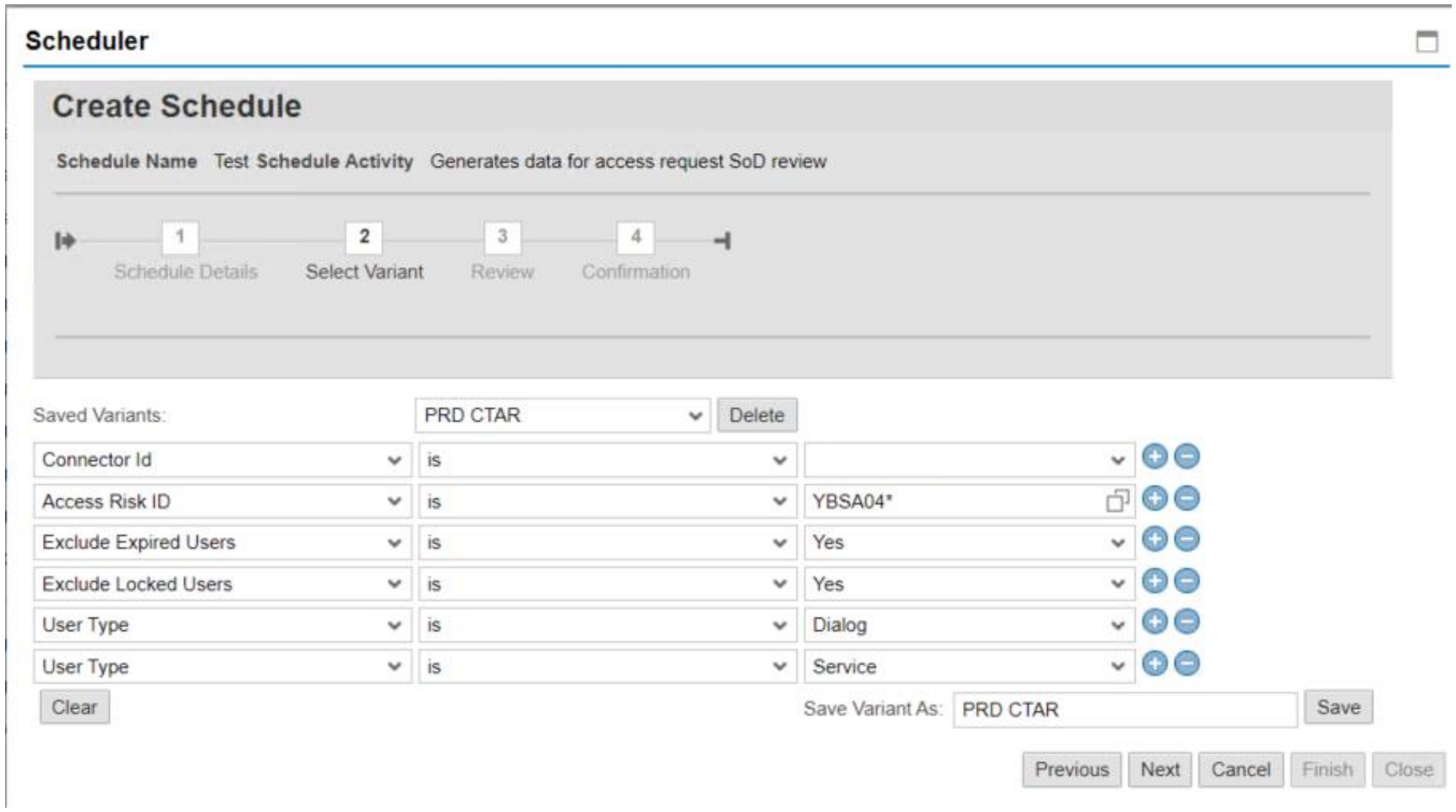
Important:
This process relies on the Batch Risk Analysis results stored within the GRC tables.

CTAR Criteria

Filter Criteria	Value	Comments
Connector ID		Select by connector ID
Access Risk ID		Critical risks (e.g., YBSA04*)
Exclude Expired Users	Yes	Based on validity dates
Exclude Locked Users	Yes	Exclude admin locked users
User Type	Dialog	Include end user accounts
User Type	Service	Include service accounts

- Criteria is defined within the scheduled job that collects the data
- Review will focus on critical risks separated by function for more granular reporting.
- This review will include dialog and service IDs, we will exclude Firefighter IDs
- Risk Owner is defined within ruleset master data and leveraged using standard workflow configuration.

CTAR Criteria



- Example of the background job: "**Generate data for access request SoD review**"

Critical Transaction Usage/Execution Review

In this section we'll cover:

- Future state critical transaction access review (CTER) process
- Key design decisions
- Overview of the process flow
- Prerequisite tasks
- Ruleset design considerations

Process Design Decisions

	Design Decision
1	Critical transaction execution review will include all users
2	Critical transaction execution review will include risks defined as “Critical”
3	Review due 30 days after review request is sent

Overview and Participants

There is currently no out-of-the-box automated workflow which will deliver the details required for the critical transaction execution review (CTER). The process will continue as-is, utilizing GRC reporting and will focus on all users who execute critical transactions, inclusive of generic non-human accounts.

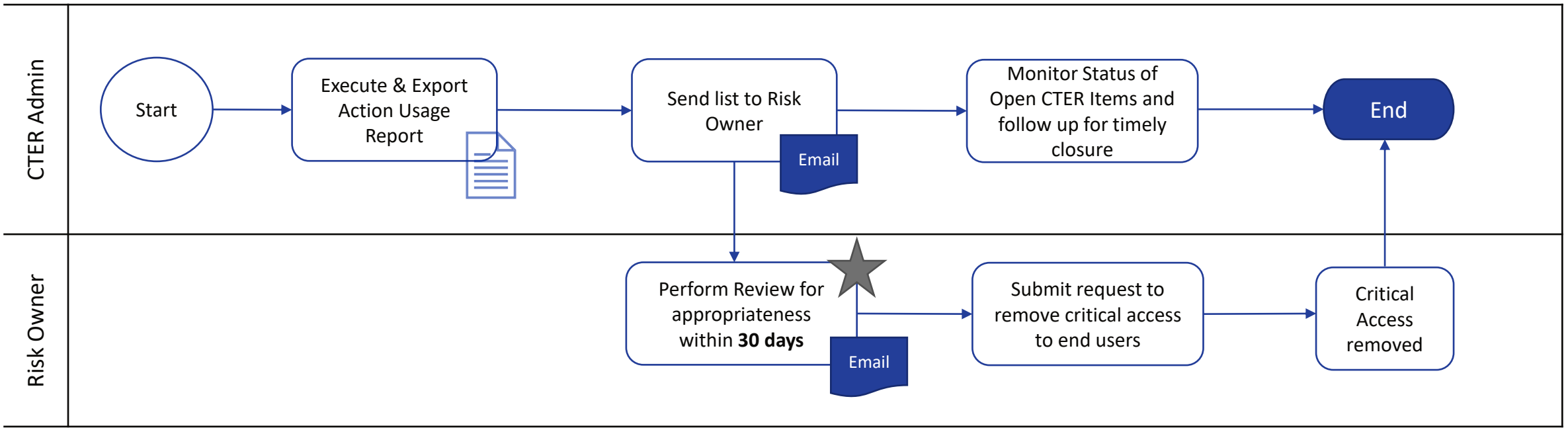
Participants in the CTER Process

GRC includes the following participants that can appear in CTER:

GRC Role	Description of Responsibilities	Jabil Team Responsibility
Administrator	Administrators will perform CTER-specific administration tasks, such as generating the report data, exporting the data.	SAP COE Governance
Risk Owner	IT Risk Owner will perform the review of critical transactions being executed. Submits request for critical access removal.	SAP IT Director

CTER Process

Review of all critical transactions executed for key SAP systems

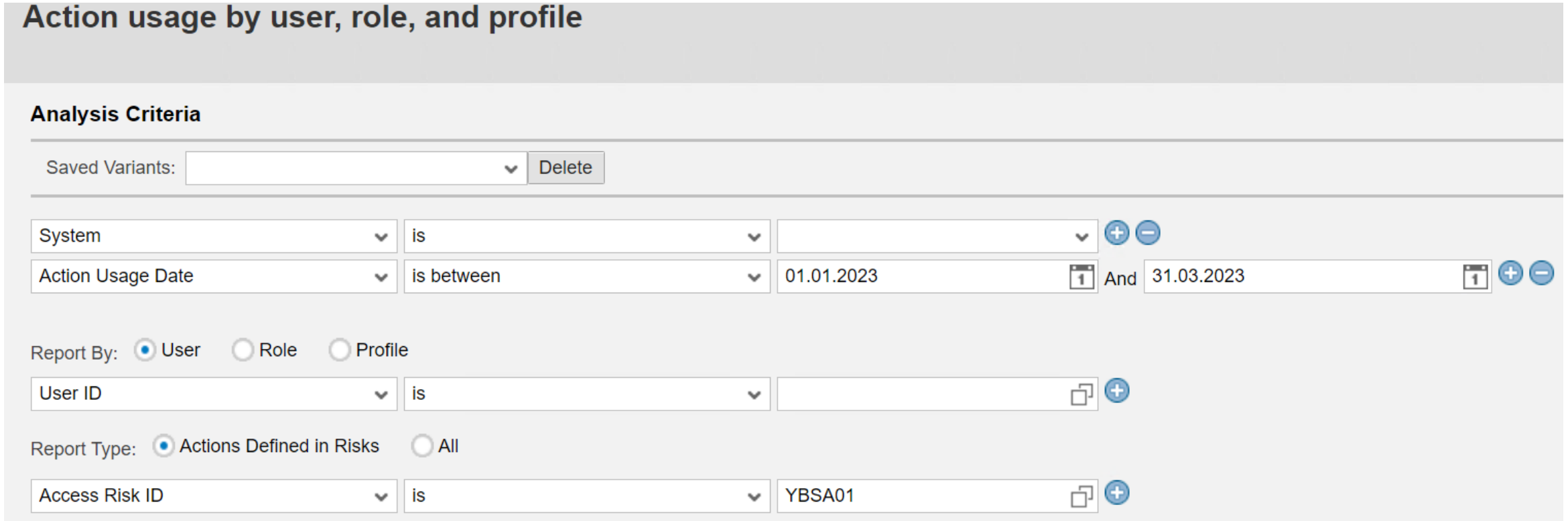


CTER Criteria

This review process is supported using the standard Access Control report called **Action Usage by User, Role and Profile**.

	Filter Criteria	Value	Comments
1	**System**		
2	**Action Usage Date**	Date Range	Review completed quarterly
3	**Report By**	User	
4	**Report Type**	Actions Defined in Risks	
5	**Access Risk ID**	YBSA06	All critical access defined as a “critical action” risk

CTER Criteria

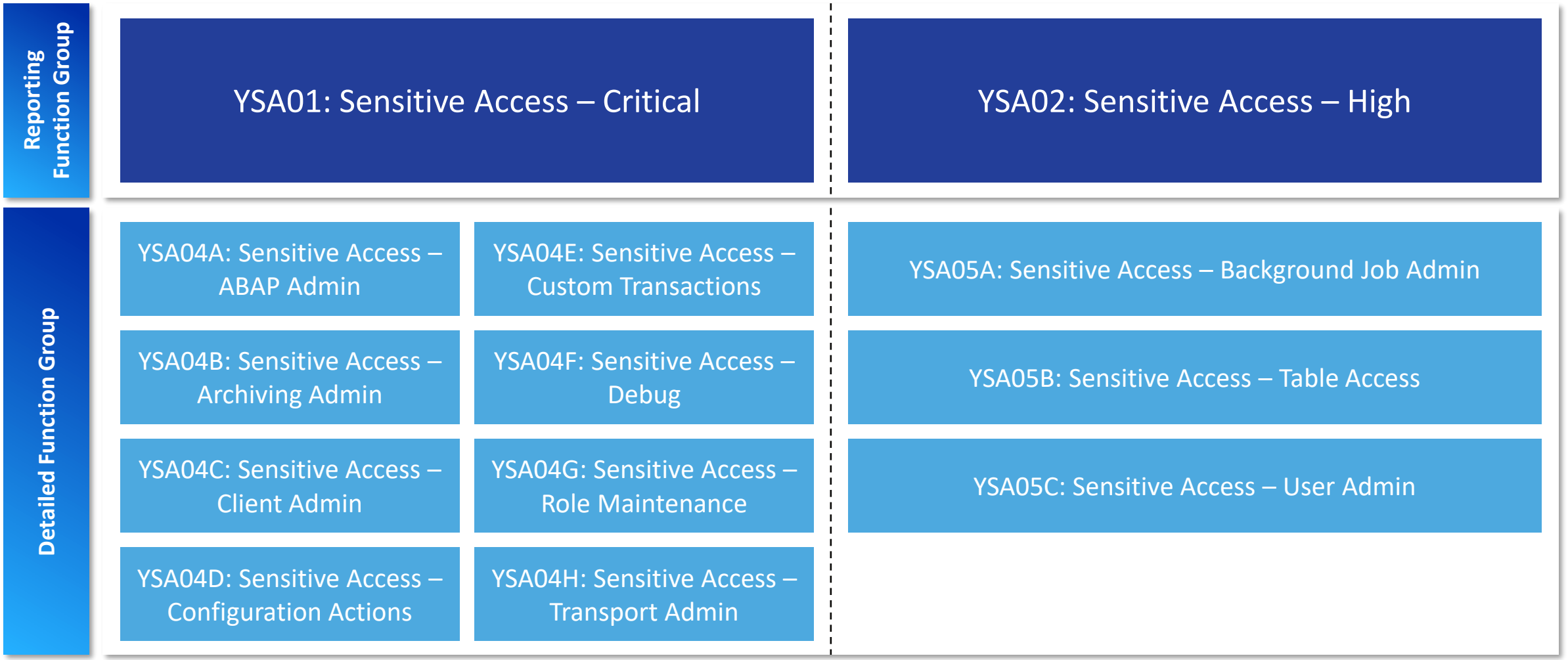


Important: When selecting the Report Type value of "Actions Defined in Risks" this functionality only works if the risk is defined as a Critical Action Risk. It does not work for Critical Permission Risks.

Critical Access Risk Ruleset Design

This section provides an overview of our Critical Access ruleset design.

Sensitive Access Risk Design in GRC



Sensitive Access Design - Critical Risk Function Group

Reporting Function Group

YSA01: Sensitive Access – Critical

Detailed Function Group

- YSA04A: Sensitive Access – ABAP Admin
- YSA04B: Sensitive Access – Archiving Admin
- YSA04C: Sensitive Access – Client Admin
- YSA04D: Sensitive Access – Configuration Actions

Function Group	Action	Action Description
YSA04A	SA38	ABAP Reporting
	SE11	ABAP Dictionary Maintenance
	SE14	Utilities for Dictionary Tables
	SE37	ABAP Function Modules
YSA04C	OY24	Client Administration
	OY25	Client Administration
	SCC4	Client Administration
	SCC5	Delete Client
	SM30	Call View Maintenance
	SM31	Call View Maintenance Like SM30
YSA04D	RZ10	Maintain Profile Parameters
	SM49	Execute External OS Commands
	SM50	Work Process Overview

Firefighter Session Review

We will discuss:

- Automated Firefighter Session Review
- Design Decisions we made
- Overview of the future-state process
- Firefighter Access Remediation

Overview of GRC Firefighter Session Review

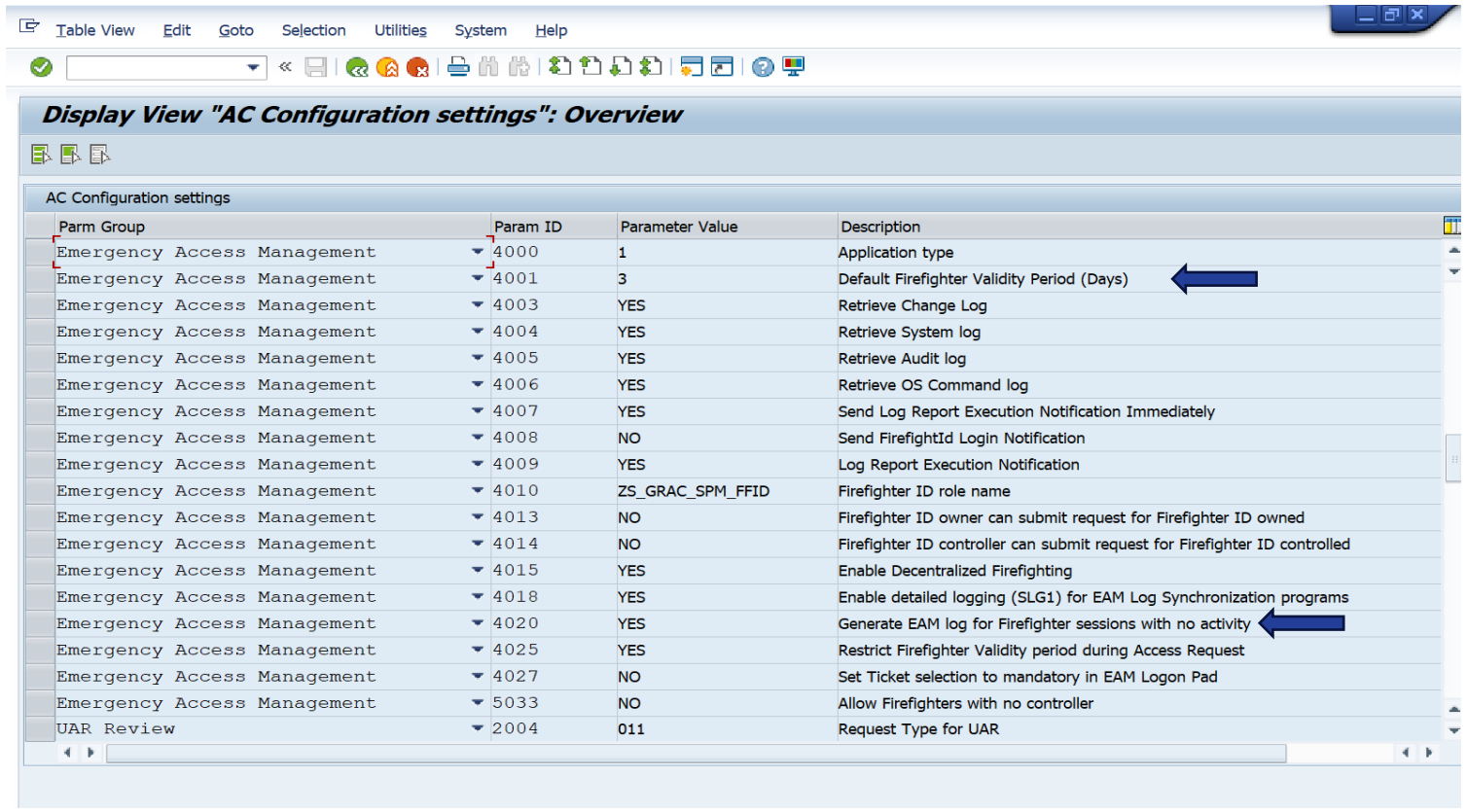
Replaced our legacy tool which was used to support the firefighter session review (FFSR) process through manual upload of data and push out of workflow items on a monthly basis.

Our future state process leverages the standard firefighter activity log review workflow and distributes the review items for each Firefighter session.

Process Design Decisions

	Design Decision
1	Default time-period for FFID assignment will be 3 Days (exceptions for NetWeaver, Security, and Project related FF IDs and team members)
2	Log of sessions with no activity will be created
3	FF activity will be reviewed by session and sent immediately
4	FF log activity will be reviewed within 21 days by FFID controller

Access Control Configuration For Process Design Decisions



Parm Group	Param ID	Parameter Value	Description
Emergency Access Management	4000	1	Application type
Emergency Access Management	4001	3	Default Firefighter Validity Period (Days)
Emergency Access Management	4003	YES	Retrieve Change Log
Emergency Access Management	4004	YES	Retrieve System log
Emergency Access Management	4005	YES	Retrieve Audit log
Emergency Access Management	4006	YES	Retrieve OS Command log
Emergency Access Management	4007	YES	Send Log Report Execution Notification Immediately
Emergency Access Management	4008	NO	Send FirefightId Login Notification
Emergency Access Management	4009	YES	Log Report Execution Notification
Emergency Access Management	4010	ZS_GRAC_SPM_FFID	Firefighter ID role name
Emergency Access Management	4013	NO	Firefighter ID owner can submit request for Firefighter ID owned
Emergency Access Management	4014	NO	Firefighter ID controller can submit request for Firefighter ID controlled
Emergency Access Management	4015	YES	Enable Decentralized Firefighting
Emergency Access Management	4018	YES	Enable detailed logging (SLG1) for EAM Log Synchronization programs
Emergency Access Management	4020	YES	Generate EAM log for Firefighter sessions with no activity
Emergency Access Management	4025	YES	Restrict Firefighter Validity period during Access Request
Emergency Access Management	4027	NO	Set Ticket selection to mandatory in EAM Logon Pad
Emergency Access Management	5033	NO	Allow Firefighters with no controller
UAR Review	2004	011	Request Type for UAR

IMG Configuration Path: GRC → Access Control → Maintain Configuration Settings

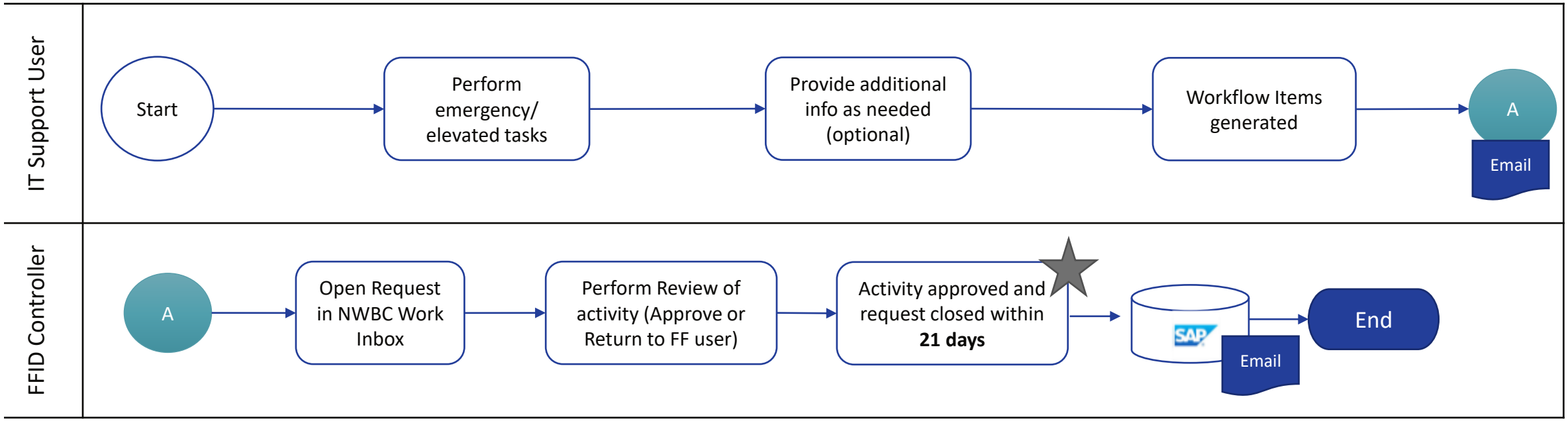
Participants in the FF Session Review Process

GRC includes the following participants that can appear in the Firefighter activity review process:

GRC Role	Description of Responsibilities	Jabil Resource Responsibility
IT Support User	User that will perform emergency tasks requiring elevated access to critical transactions.	IT Support Team
FFID Controller	Approvers at the Reviewer stage. The controller of a Firefighter ID, as defined in GRC.	Key IT Support Team Members by Functional Area

Firefighter Session Review Process Flow

This is a standard workflow-based review process within Access Control.
The workflow item is sent to FF ID Controllers for review of activity for each FF ID session.



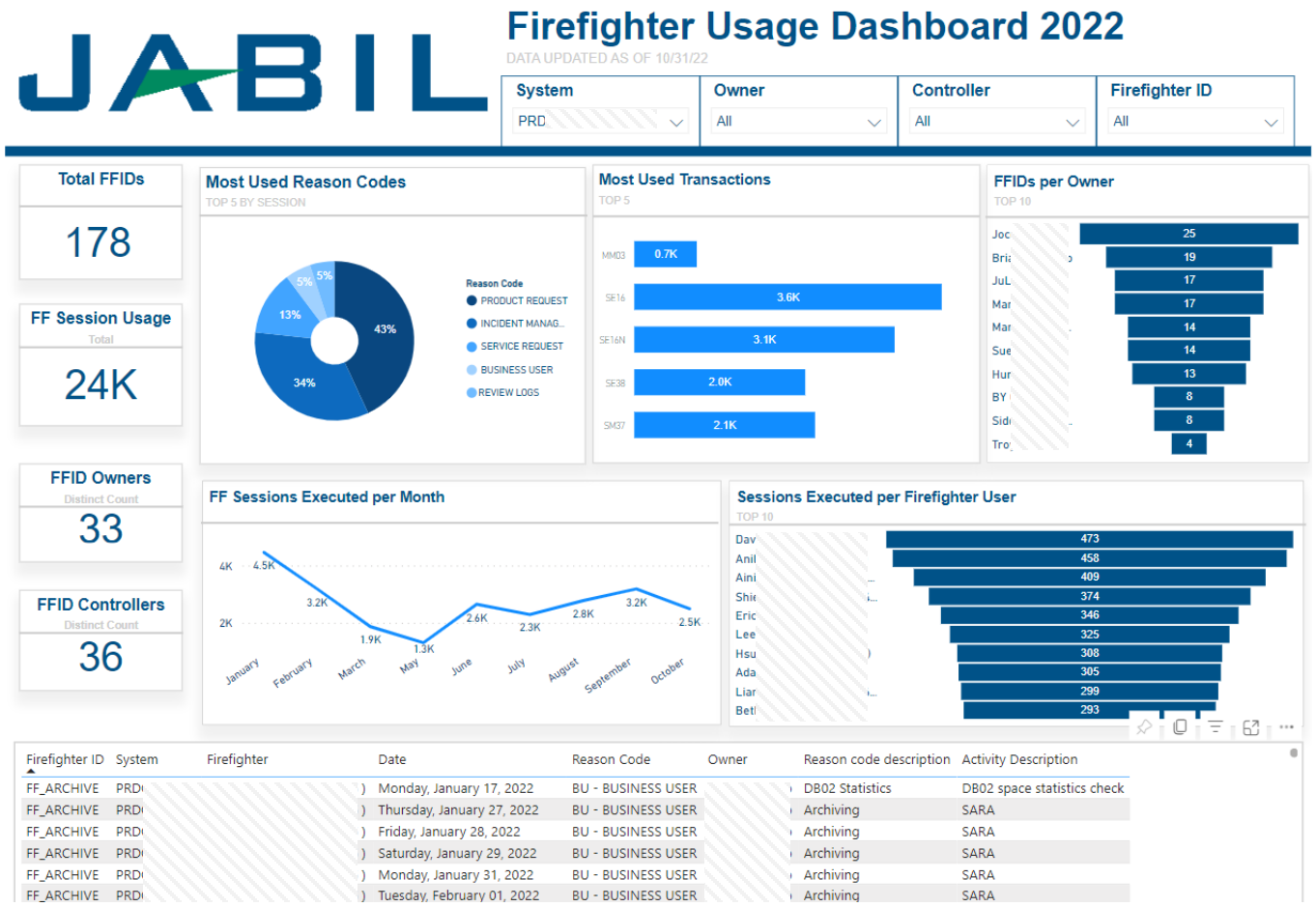
Key Firefighter Process Changes

Major pain point: high volume of activity in Firefighter IDs and lack of enough display access for IT display users

How we addressed this:

- Used analytics and dashboard to identify non-critical t-codes being executed with Firefighter IDs
- Reduce unneeded Firefighter logins in order to reduce volume of logs requiring review
- Moved closer to best practice processes for Firefighter usage and review by:
  - Performing continuous reviews based on sessions and not a monthly manual
  - Assignment of Firefighter IDs shortened to 3-day period for most IT support users, rather than long-standing access
    - **Note**: Exceptions were identified for specific IT support teams to have FF ID assignments for longer than 3 days

Firefighter Usage Analytics



- Developed PowerBI Dashboard based on standard Access Control report data.
- Leveraged dashboard to identify heavy users and log reviewers.
- Analyzed frequency of Firefighter ID use.
- Reviewed the most used t-codes with FF Controllers and FF Owners and identified display access activity which could be evaluated for assignment to standard user access.

Firefighter Access Remediation

High Level Outline of Firefighter Remediation Access Updates

1. **Update and improve communication** to FF ID owners on policy and standards for Firefighter ID use:
   - Re-educate and communicate updated FF ID Usage Standards (e.g., displaying data, mass update t-codes, etc.).
2. **Review current Firefighter ID assignments** and remove / reduce unneeded Firefighter IDs and access.
3. **Review SE16 access and provide display role** within Access Control for request by IT end users.
   a. Role Owner will review requests and approve/reject based on appropriateness.
4. **Review roles with background job access** (SM37) and assign to end users to manage and monitor jobs (without administrator authorizations).

Firefighter Access Remediation (cont.)

High Level Outline of Firefighter Remediation Access Updates

5. **Review Mass Update T-codes:** SARA, LSMW, MASS, MASSD, MEMASSPO
   - Refer to SAP note 1378276 - The large amount of data associated with mass transaction/maintenance may cause the log collector job to run beyond the next scheduled job start.
6. **Considered creation of queries** (SQVI) for common data views and requests.
7. **Assign other display access for IT users** with required trainings. These roles do not contain any High or Critical transactions and have transactions codes commonly used within Firefighter IDs and were assigned to end users directly:
   - IT – ABAP Display
   - IT – ABAP Error Display
   - IT – Application Log Display
   - IT – EDI Display
   - IT – Workflow Display

Measuring Success with KPIs

In this section we'll cover some of the KPIs we used to monitor progress and measure success for reporting to our leadership team.

KPIs – Overall and UAR

	Area	Metric	Frequency	Baseline	Target	Measure
1	**Overall**	Count of SOX systems connected to GRC for automated UAR	One-time	0	6	Systems
2	**UAR**	Total number of days to perform and close user access review (UAR)	Annually	45	28	Days
3	**UAR**	Workload for the compliance team to prep and support user access review (UAR) process	Annually	450	50	Hours
4	**UAR**	Total number of days to perform user access review (UAR) by reviewer	Quarterly	30	14	Days
5	**UAR**	Completion percentage of access review	Annually	90%	95%	Roles

KPIs – Critical Transaction Access Review (CTAR)

	Metric	Frequency	Baseline	Target	Measure
1	Workload for the compliance team to prep and support for critical transaction review (CTR)	Quarterly	50	10	Hours
2	Number of risk owners assigned SoD risks. (target all risks have owners)	Annually	0%	100%	All BPOs
3	Total number of end users with critical sensitive access assigned.	Continuous	209	12	Users
4	Identification of user with critical risks versus high risks	Continuous	0	100%	Users
5	Number of critical t-codes monitored	Continuous	43	63	Tcodes

KPIs – Firefighter Metrics

	Metric	Frequency	Baseline	Target	Measure
1	Total number of days to perform FF activity log review (FFID Session Review)	Monthly	60	30	Days
2	Workload for the SAP governance team to prep support for FF activity log review (FFID Activity Review)	Monthly	Unknown	5	Hours
3	Total number of Firefighter activity logs reviewed according to security policy standards.	Monthly	100%	100%	Logs
4	Average number of end users assigned to Firefighter account.	Annually	900	250	Users
5	Total number of FF IDs	Continuous	525	300	FF IDs
6	Average number of FF sessions requiring review	Monthly	5.8K	3K	FF Sessions
7	Average number of days FF ID is assigned to a user (excluding Security and Basis)	Continuous	Unlimited	3	Days

Success in Numbers

35,000+ users

~90% of users reviewed within 35 days by Managers

1,000,000+ SAP access assignments reviewed

Improved precision of critical access monitoring

50% reduction in Firefighter Assignments

SAP Access Governance (GRC)

- User Access Review
- Firefighter Activity Review
- Critical Access Review
- Critical Transaction Execution Review

~200 hours saved annually supporting access review tasks

4 new automated workflows

Increased frequency of firefighter activity review to daily

6 in scope systems

Wrap Up

- Understand control requirements and align GRC design decisions to ensure alignment with control objectives.
- Documenting completeness and accuracy takes time and a requires a good understanding of GRC tables and dependencies.
- Allocate sufficient time to testing and validating data.
- Measure success along the way to ensure effective communication to your leadership team.
- Automation is handled by GRC, but validation still requires some manual tasks!

Where to Find More Information

User Access Review (UAR) Reference Guide – SAP Access Control 12.0; SAP Help Documentation

https://help.sap.com/doc/4374b09eddfe468cb80b77b4ad83e80b/latest/en-US/AC12_UAR_Reference_Guide%20SP00.pdf

Troubleshooting UAR Request Generation; this page is to explain how to troubleshoot the UAR request Generation task; SAP Help Documentation

https://help.sap.com/docs/SUPPORT_CONTENT/grc/3362386995.html

SAP Access Management Governance – Getting it Right, Making it Sustainable; Protiviti

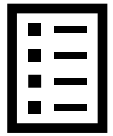
https://www.protiviti.com/sites/default/files/2022-09/sap-access-mgmt-governance-getting-it-right-protiviti.pdf

Achieve Seamless, Efficient SAP GRC Access Control Operations through Managed Services; Protiviti SAP Blog

https://sapblog.protiviti.com/2022/08/02/achieve-seamless-efficient-sap-grc-access-control-operations-through-managed-services/

Key Points to Take Home

- Evaluate standard Access Control functionality and design processes to support automated access review, risk review, and Firefighter activity review
- Leverage analytics to use data to provide insight into process and access issues
- Configure the system based on key design decisions and aligned to control objectives
- Leverage the ruleset to monitor and review sensitive access risks
- Understanding GRC functionality, table data, dependencies and aligning all of that with controls requires a cross-functional team and a good partner!



Thank you! Any Questions?

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