SKYWIND
Software Group

Empowering SAP Basis AMS Teams with SkyAPS™:

the Path to Enhanced Management, Control and Efficiency

SkyAPS™ for SAP Basis AMS

Keeping multiple SAP landscapes performing optimally, secure, compliant, and under centralized control is the paramount challenge faced by SAP AMS Basis experts across complex, multi-client environments.

SkyAPS™ is the comprehensive solution empowering AMS teams to master this complexity through automated monitoring, in-depth analysis, real-time alerting, and a full suite of tools purpose-built to streamline issue resolution, enhance system reliability, and drive operational efficiency

What you get:

- Identify the potential problem before it actually happened
- Notify process/problem initiator dynamically (no subscription)
- Save resources, required for monitoring (less disk space, less IO)
- Spend substantially less time on day-by-day maintenance routines
- Identify mass abnormal activities such as too many dumps/failed jobs/bad IDOCs
- Fine tune only once : 100% inheritance of SAP version upgrades or Database updates

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Elevating SAP Basis AMS to Peak Efficiency with SkyAPS™

Seamlessly tackle complex SAP Basis challenges with SkyAPS™ —
where advanced analytics meet proactive solutions for measurable operational gains.

SAP Basis AMS Challenges	SkyAPS™ Solution Capabilities	Tangible Improvements
Efficiently managing operations across disparate SAP landscapes	Integrated alerting, analytics and unified visibility provide oversight helping to streamline the management	✓ **up to 30% faster** incident response
Ensuring high stability and performance at multi-system SAP environments	Automated analysis of associated SAP resources to preemptively prevent issues and outages	✓ **up to 99.9% improvement** in system uptime
Rapid anomaly and error identification across diverse SAP systems	Advanced anomaly detection with in-depth system insights for swift resolution	✓ **up to 40% reduction** in mean time to detect (MTTD) and resolve (MTTR)
Optimizing resource utilization and maintaining steady system health	Comprehensive resource analysis tracking CPU, memory, work processes, disk space, database usage and many more	✓ **up to 20% increase** in resource utilization efficiency
Ensuring seamless data flow and robust communication between SAP systems and 3rd parties	Deep monitoring and analysis of protocols and data pathways for seamless, error free data exchange	✓ **up to 50% reduction** in data transmission errors

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SAP Basis AMS Challenges	SkyAPS™ Solution Capabilities	Tangible Improvements
Efficient SAP background jobs management across multiple SAP landscapes	Advanced indicators to simplify background job management, reduce overlaps and resource contention, enhancing system responsiveness	✓ **up to 80% improvement** in job operating efficiency
Enhancing operational efficiency and speed via reduction of manual efforts	Automated, ongoing analytics reduce manual tasks and streamline processes, leading to greater efficiency and less errors across client systems.	✓ **up to 25% reduction** in manual workload
Mitigating security risks and ensuring compliance	Real-time security tracking integrated with continuous compliance monitoring	✓ **up to 25% decrease** in user related incidents
Controlling user activities, preventing errors and unauthorized access	Comprehensive access controls integrated with in-depth authorization analysis, user activity monitoring, and segregation of duties violation prevention	✓ **up to 35% decrease** in unauthorized access attempts

Protect Your Business, Control Your Processes

The SkyAPS™ Solutions Pool:

Skywind 4C™

to increase the transparency of all SAP activities by enhancing control upon business and technical events and processes

to prevent unwanted outcomes and quickly compensate the damage by diminishing the consequences and restraining further risks

to identify fraud, reveal problems and bottlenecks earlier, to protect against cyber threats

Skywind JAM™

to gain visibility, agility, better management, analysis and control of SAP background jobs

Skywind SoDA™

to analyze and monitor your segregation of duties, perform in-depth authorizations analysis and inform you in real time about corresponding suspicious activities

Solutions and Content

SKYWIND ANALYTICAL PLATFORM FOR SAP

✓ Analytics ✓ Monitoring ✓ Alerting ✓ Smart Data Distribution

4C™

- Fraud detection
- Business Processes monitoring
- Infrastructure, Communications, Interfaces monitoring
- Business Warehouse monitoring

JAM™

- Background Jobs analysis and monitoring
- Background Jobs management and optimization

soda™

- Segregation of Duties (SoD) analysis and monitoring
- Authorizations analysis and monitoring

YOUR SAP S/4HANA · ECC · BW · CRM · SRM

SkyAPS™ Solutions Content

- **Skywind 4C™ Basis and Infrastructure Pack**
  for continuous validation of SAP technical consistency and performance
- **Skywind 4C™ Generator**
  for instant, no-code creation of your own controls and reports
- **Skywind 4C™ Anti Fraud and Cyber Pack**
  for ultimate SAP protection against cyber attacks and internal fraud
- **Skywind 4C™ Business Bottlenecks Pack**
  for superior business control and transparency
- **Skywind 4C™ Business Warehouse (BW) Pack**
  for smooth BW operation and maintenance
- **Skywind JAM™ Analysis and Control**
  to analyze, control and optimize all SAP Background Jobs activities
- **Skywind SoDA™ SoD and Authorizations Violations Analysis**
  – to eliminate and prevent SoD violations and protection against internal fraud
- **Skywind Security and Administration App.**
  Internal application for ultimate control of platform usage

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Skywind SkyAPS™ Basis AMS Pack:

Empowering SAP AMS Experts to Master SAP Basis Challenges

- Anomalies Detection
- Server Resources Control
- Automated Jobs Analysis
- APIs to SOC / SIEM

- Communication & Connectivity
- Logs Analysis
- User Activities Control
- SAP Interfaces

and much more...

Anomalies Detection

Quickly Detecting and Mitigating Critical System Issues

Potential Impact:
SAP System Operational Disruptions

EXAMPLES:

- **ST22: 300+ dumps occurred in 10 minutes**
  Impact: potentially causing system instability, disrupted operations
- **SM37: 100+ jobs have failed in 10 minutes**
  Impact: indicates a significant operational disruption, potentially leading to business process interruptions
- **SM13: 200+ requests have failed in 20 minutes**
  Impact: potential data processing and connectivity issues, risking inconsistencies in storage and processing
- **SM12: Detect prolonged Locks (e.g., 10+ hours)**
  Impact: could hinder system performance and disrupt critical business operations
- **WE02: 200+ IDOCS have failed in 10 minutes**
  Impact: can severely disrupt data exchange processes and compromise system integrity
- **SM35: Too long Batch Inputs (e.g., 10+ hours)**
  Impact: can impede system efficiency and delay critical business processes

Server Resources Control

Preventing System Performance Degradation

Potential Impact: SAP System Performance Degradation up to Complete Blackout

EXAMPLES:

ST06: Servers CPU controlling (e.g. Free CPU < 10%)
Impact: can cause high system latency, reduced throughput, and increased response times

ST06: Free Memory on SAP Server (e.g., RAM < 5%)
Impact: can lead to significant performance degradation, potential system instability, and increased risk of application failures

ST06: Swap Page File Free Memory (e.g., PF < 10%)
Impact: can lead to increased disk swapping, reduced performance, and slower response times

DB02: Free Space on SAP Server Disks: (e.g., C:\ < 10%)
Impact: potentially causing data handling issues and system interruptions

DB02: Database Free Space Control
Impact: can lead to critical issues such as database write failures, transaction errors, and potential system downtime

SM50: Work Processes Control (e.g. UPD < 20%)
Impact: can result in delays in transaction processing and reduced system responsiveness

Automated Jobs Analysis

Preventing System Instability and Bottlenecks

Potential Impact: SAP System Performance Issues and Resource Depletion

EXAMPLES:

Abnormally long running jobs (e.g. 24+ hours)

Impact: can indicate ABAP program inefficiency or issues within the system, potentially causing resource contention and affecting overall system performance.

Multiple parallel job executions(the same job)

Impact: depletion of critical resources such as work processes, memory, and CPU, leading to potential performance bottlenecks and system instability

Redundant Jobs (jobs with identical or similar structure)

Impact: can lead to increased resource consumption, such as additional memory, CPU usage, and disk space, potential confusion for administrators and users, and increased maintenance overhead

Jobs that already are or will soon become obsolete

Explanation: jobs with expired date/time variant values or jobs which's steps are assigned to the users with ended (or ending) validity

Deleted Jobs (deleted by user or by program)

Impact: possible fraud, potential data loss, disruption of scheduled processes, and challenges in tracking and auditing system activities

Elongated Jobs (run longer and longer over time)

Impact: potential performance bottlenecks, resource contention, and delays in critical business processes

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Automated Jobs Analysis

Preventing System Instability and Bottlenecks

Potential Impact: SAP System Performance Degradation up to Complete Blackout

COMPREHENSIVE ANALYSIS OF SAP BACKGROUND JOBS

- Which jobs overlap with system peak times?
- Which jobs overload the CPU, RAM, WP? Which
- jobs are redundant or duplicated? Which jobs
- are or will soon become obsolete?
- Which jobs are at risk of becoming invalid and why?
- Which jobs are experiencing an increase in duration, and what are the reasons behind it?
- During system peaks, which jobs place the greatest burden on the system?
- Which jobs were deleted from SAP systems?
- What alterations occurred to a job and its cause?
- Which jobs consistently fail and why?
- Which jobs are repeatedly delayed and the reasons?
- Who updated which jobs and when?

LEADS TO

OPTIMIZED SAP SYSTEM PERFORMANCE AND EFFICIENCY

- **Less Down Time:** Quicker issue identification and resolution.
- **Economic Savvy:** Save on time, human and machine resources.
- **Anticipate and Act:** Prevent minor hiccups from escalating into technical or business challenges.
- **Superior IT Services:** Enhanced reliability and quality of SAP Basis teams.
- **Trust Building:** Boost stakeholder trust and brand reputation.
- **Work with Confidence:** Equipped SAP Basis team for swift issue handling.
- **Collaborative Spirit:** Strengthened teamwork and problem-solving.

Communication and Connectivity

Ensure Timely Data Exchange, Keep IT Running

Potential Impact: SAP System Downtime and Operational Efficiency

EXAMPLES:

- **RFC Connection Ping (internal and external)**
  Impact: can indicate SAP system is down.
- **RFC Logon Availability Ping (is the system is "frozen"?)**
  Impact: could indicate potential logon issues or server unavailability
- **qRFC queue count (e.g., inbound / outbound > 100)**
  Impact: potential processing bottlenecks, leading to delays in data transmission and potential system instability
- **tRFC Queue (e.g. records in SMQ2 are for 2+ hours)**
  Impact: potential communication failures or performance issues, risking data integrity and system reliability
- **SOST: Email Anomaly (100+ errors in 10 minutes)**
  Impact: potential issues with email delivery, risking disruption of critical communication processes activities
- **SOST: Email Anomaly (100+ are waiting for 2+ hours)**
  Impact: potential delays in critical email delivery, possibly hindering business communication and operations

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SAP Logs Monitoring Analysis

Potential Impact: SAP System Downtime and Operational Efficiency

Detect anomalies, ensure system security, integrity

EXAMPLES:

SM20: Analysis of Security Audit Log - Details

Impact: unauthorized access attempts, suspicious transactions, user activity patterns, changes to sensitive data

SM20: Analysis of Security Audit Log - Anomalies

Impact: unauthorized access attempts, suspicious transactions, user activity patterns, changes to sensitive data (en masse)

SM21: Analysis of Debugging Log - Details

Impact: program execution, variable values, error messages, program flow, and potential debugging issues

SLG1: Analysis of Application Log - Details

Impact: potential processing bottlenecks, leading to delays in data transmission and potential system instability

SM21: Analysis of System Log - Details

Impact: system errors, warnings, performance issues, background job status, user logon/logout activities

SM21: Analysis of System Log - Anomalies

Impact: system errors, warnings, performance issues, background job status, user logon/logout activities (en masse)

SCU3: Analysis of Change Log (CDHDR / CDPOS)

Impact: changes made to critical data objects, including who made the changes, when they were made, and the old and new values, aiding in audit trails, compliance and data integrity maintenance

DB20: Analysis of DBTABLOG

Impact: detailed records of database table changes, including insertions, updates, deletions, and the associated user information, timestamps, and affected fields

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User Activities Analysis

Potential Impact: SAP System Security and Performance

Prevents breaches, compliance violations and instability

EXAMPLES:

SM04: Long Time Logged On Users

Impact: increased resource consumption, potential performance degradation, heightened security risks

SUIM: Inactive Users (e.g., 180+ days)

Impact: increased security risks, potential data breaches, compliance issues and inefficient resource allocation due to unused user accounts

SM20: Users who repeatedly entered wrong password

Impact: account lockouts, increased administrative workload, and heightened user frustration

SU01: Locked Users

Impact: potential processing bottlenecks, leading to delays in data transmission and potential system instability

SU01: User Creators Control

Impact: system errors, warnings, performance issues, background job status, user logon/logout activities

SU01: Users Profile Control

Impact: system errors, warnings, performance issues, background job status, user logon/logout activities (en masse)

SU01: Users Password State

Impact: changes made to critical data objects, including who made the changes, when they were made, and the old and new values, aiding in audit trails, compliance and data integrity maintenance

SU01 : Users having SAP_ALL (or any other) Profile

Impact: detailed records of database table changes, including insertions, updates, deletions, and the associated user information, timestamps, and affected fields

SAP Interfaces

Safeguarding data integrity and security

Potential Impact: SAP Data, SAP System Security, Disrupted Business Operations

EXAMPLES:

IDocs (Intermediate Documents)

Impact: Delays or errors in IDoc processing can disrupt data synchronization between systems, leading to transaction failures and inaccurate business reporting

RFCs (Remote Function Calls)

Impact: Failed or slow RFCs can cause system integration issues, impacting real-time data exchange and potentially halting cross-system business processes

File Transfers (Direct / FTP)

Impact: Interruptions or errors in file transfers can lead to data loss, incomplete data records, and compliance risks, especially in data-driven decision-making environments

SAP Exchange Infrastructure/Process Integration (XI/PI)

Impact: Disruptions in integration, delays in data flow between SAP and non-SAP systems, resulting in business process interruptions and operational inefficiencies

BAPIs (Business Application Programming Interfaces)

Impact: Malfunctions or inefficiencies in BAPIs can degrade application performance, resulting in slower response times and reduced user productivity

Business Documents (NAST Table)

Impact: Delay or prevent the generation and dispatch of critical documents like invoices and purchase orders, affecting operational efficiency and customer relationships

Integration with SOC / SIEM Platforms

BENEFITS: Pushes pre-filtered SAP data instead of raw logs, dramatically reducing SIEM processing costs while providing laser-focused security insights.

Enable SAP insights within your Security Operation Center (SOC)

PROTOCOLS:

Syslog Protocol

Centralized Logging: Centralize logs from various devices, systems, and software applications into a single repository.
Security Monitoring: Used in security information and event management (SIEM) systems

Web Services

Use Case: Synchronize data flows between SAP and Non-SAP systems such as CRM, eCommerce platforms, or custom databases.
Benefit: Ensures consistency and accuracy of data across different systems, improving operational efficiency and reducing errors.

Files Transfers

Impact: Interruptions or errors in file transfers can lead to data loss, incomplete data records, and compliance risks, especially in data-driven decision-making environments

SUPPORTED PLATFORMS:

splunk> | IBM Radar | Microsoft Sentinel
solarwinds | SECURONIX | exabeam
AlienVault USM Anywhere | LogRhythm | ArcSight

Realise Tangible Benefits

SkyAPS™ platform empowers **SAP AMS Basis Teams** to conquer the most daunting challenges of multi-client SAP management. With its unparalleled capabilities in automated monitoring, comprehensive analysis, and real-time alerting, SkyAPS™ ensures:

Performance

Seamless performance and high availability across all SAP landscapes

Visibility

Centralized visibility and control over intricate system operations

Productivity

Enhanced team productivity and operational efficiency

Resolution

Swift issue resolution and optimal resource utilization

Security

Robust control over SAP user activities

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The Science of Data.
The Art of Business.

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