



INTERNAL

Type: Architecture Decision Record

## CPA WG Identity & Access Management and CPA WG Observability – WS Metering

### PUPM User Assignment & User Metering, exemplified on Business AI PUPM Packages

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Majority Vote by Org Units	
Document goal	This ADR specifies how to implement user-based metering for PUPM packages by combining customer-declared user counts with application-measured active user consumption.
Link to <b>this</b> word file	<u><a href="#">Word file</a></u>
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**REQUEST TO DOCUMENT-REVIEWERS:** Read the whole document at least once before adding any comment. We also ask everyone to take the guidelines (available in the side comment, or [here](#)) for document reviewing into account. These were created based on the lessons learned from previous reviews.

#### Version History

Version	Date	Changes

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## 2 EXECUTIVE SUMMARY

### 2.1 Business Context

SAP is adopting a **Per User Per Month (PUPM) pricing model across multiple solution bundles** to provide customers greater flexibility and simplified adoption. This ADR establishes a **universal PUPM framework** applicable to any integrated solution bundle requiring user-based pricing.

**Implementation Focus:** While the PUPM concepts are solution-agnostic, **this ADR uses Business AI packages as the primary reference implementation**, providing detailed specifications grounded in immediate production requirements. The framework's core principles—user assignment, authorization, metering, and consumption tracking—are designed for broader applicability across SAP's portfolio.

Under the PUPM model, features are bundled into packages (typically aligned to Lines of Business or solution domains), and customers are charged based on the number of users per package rather than individual feature consumption.

### 2.2 Challenge

To support the PUPM business model, we need to establish how to:

- **Assign users to packages** without creating operational complexity
- **Meter usage accurately** to calculate billable user counts
- **Prevent underreporting** while protecting customers from unexpected charges

### 2.3 Solution Approach

This ADR defines a **user count declaration model** that balances simplicity with accountability:

**User Assignment:** Customers specify the total number of assigned users per package via SAP for Me (no named user lists required). Access control is not enforced on the total number of assigned users but through standard application authorization mechanisms.

**Metering Enhancement:** Applications enhance existing AI consumption metrics by adding a User ID property. This enables calculation of active user counts without requiring explicit user assignment lists or complex new infrastructure.

**Billing Calculation:** Customers are charged monthly for the **higher of**:

- Assigned user count (high water mark), OR
- Active user count (distinct users who consumed features)

Plus any request consumption beyond the fair use limit.

### 2.4 Key Benefits

- **For Customers:** Simplified activation, flexible user management, no upfront named user assignment burden
- **For SAP:** Faster market adoption, prevents revenue leakage from underreporting, protects against cost overruns from excessive consumption
- **For Applications:** Minimal implementation effort - only requires adding User ID to existing consumption metrics

### 3 CONTEXT

#### 3.1 Evolving to Per User Per Month (PUPM) for Integrated Solution Bundles

The software industry has witnessed a significant transformation in how organizations consume and pay for digital solutions. In the past SAP commercialized their individual solutions separately. This was done often via subscription-based agreements for each solution, each governed by solution-specific consumption metrics. These metrics vary widely across different solutions – from the number of active users and document creation volumes to storage capacity in gigabytes.

This granular, solution-by-solution approach, while effective for standalone applications, presents challenges as organizations increasingly seek integrated solution suites that address comprehensive use cases. Individual subscription agreements with varying consumption metrics create complexity in license management, make cost predictions difficult, and potentially inhibit the full utilization of solution capabilities.

Per User Per Month (PUPM) pricing emerges as a unifying metric that streamlines the consumption and management of bundled solution suites. By standardizing the measurement of license usage across multiple solutions, PUPM creates a solution-overarching entitlement model that better aligns with how modern enterprises actually use integrated software portfolios. This approach shifts focus from tracking multiple usage metrics across individual solutions to managing a single, user-based metric across an entire solution bundle.

The transition to PUPM for bundled solutions represents more than a mere simplification of pricing metrics. It enables organizations to think holistically about their software needs, encouraging the adoption of comprehensive solution suites that address end-to-end use cases rather than piecing together individual point solutions. This model supports a more strategic approach to software procurement and deployment, where the focus remains on delivering complete business value rather than managing multiple subscription agreements with varying license metrics.

From a technical perspective, this evolution requires sophisticated user management systems that can track access and usage patterns across multiple integrated solutions. It demands robust authentication frameworks and unified usage monitoring capabilities that can provide coherent visibility across entire solution bundles.

#### 3.2 PUPM as a Universal Framework for SAP's Solution Bundles

This Architecture Decision Record establishes a **universal PUPM framework** applicable across SAP's diverse portfolio of integrated solution bundles. The framework provides consistent principles for user assignment, user authorization, user metering, and consumption metering that can be adopted by any solution bundle requiring a Per User Per Month pricing model.

**Framework Scope and Applicability:** The PUPM concepts defined in this document are designed to be solution-agnostic and scalable across different business contexts. Solution bundles are organized around packages that serve as the foundational unit for PUPM user assignments, enabling standardized pricing strategies while accommodating domain-specific requirements.

**Primary Implementation: Business AI Packages** To provide concrete, actionable guidance, **this document uses SAP's Business AI Packages as the primary reference implementation**. All detailed

examples, technical specifications, and decision rationale are grounded in the Business AI context. This approach ensures the document delivers immediately applicable solutions while establishing patterns that can be adapted to other solution bundles.

**Future Application: Business Suite** The PUPM framework is being evaluated for adoption by the Business Suite of SaaS Suite Northstar. The current understanding of Business Suite requirements and package structures is documented in the Appendix, reflecting the exploratory nature of this application. As the Business Suite implementation matures, additional requirements may necessitate framework extensions or domain-specific adaptations.

**Validation and Alignment:** Integrated solution bundle owners are expected to review this ADR and validate alignment with their envisioned PUPM implementation. Any deviations identified during review must be evaluated to:

1. Determine their acceptability within the broader PUPM framework
2. Ensure they do not create conflicts with established PUPM models for other solution bundles
3. Identify necessary framework extensions versus domain-specific customizations

This collaborative review process maintains coherence across SAP's portfolio while allowing justified customizations that reflect specific business requirements.

### 3.3 PUPM for AI Business Packages

**Reference Implementation:** This section documents the primary implementation of the universal PUPM framework. All technical decisions, architecture patterns, and detailed specifications in this ADR are grounded in the Business AI context, providing concrete guidance for immediate production deployment while establishing reusable patterns for other solution bundles.

The SAP AI commercial model is being simplified to allow customers to consume user-based packages via AI Units. Customers will still be sold AI Units, but we will group AI Features + Premium Joule at the package level (LOB/Solution) and the customer will be charged on the number of unique users assigned to each package.

We now need to meter our applications and packages based on the unique number of users, provide a way for our customers to assign users to each package, and charge our customers for the number of users per package.

Example offering:

Capability Offering	Metric consumed	Requests used (limit)	AI Units consumed
<b>AI for Business Users (GROW/Cloud ERP)</b>	20 Users	5,200 (20.000)	80 AI Units
Joule Premium Features for Cloud ERP		3,000	
Premium Feature 1		1,500	
Premium Feature 2		500	
Premium Feature 3		200	
<b>AI for Business Users (HCM)</b>	10 Users	12,100 (10.000)	30 AI Units
Joule Premium Features for HCM		5,700	
Premium Feature 4		2,700	
Premium Feature 5		3,700	

Overage for HCM	2,100	
AI Agents	10 [metric]	20 AI Units
Agent 1	2 [metric]	
Agent 2	5 [metric]	
Agent 3	3 [metric]	
Records	1000 records	5 AI Units
<b>Overage Requests (Excess Use)</b>	2,100 requests	10 AI Unit
Overage for HCM	2,100 requests	
<b>TOTAL</b>		<b>145 AI Units</b>

Figure 1 Example Offering

### 3.3.1 Benefits for SAP

Moving to a PUPM model will allow quick adoption into the market for SAP which would be an increase in revenue. Offering Base Joule for all cloud customers will also give them easy access to Joule and see the benefits which maybe lead to the adoption of premium Joule.

### 3.3.2 Benefits to customers

Provide our customers with more flexibility by not charging for each feature but at the package level. The customer can also assign and limit access to features for required users instead of allowing anyone to use a feature. Base Joule will also be provided to all Cloud customers and will not have restrictions put in place regarding the number of messages a customer can have.

### 3.3.3 Business AI PUPM packages

There will be an identified number of packages most likely aligned to LOBs which will have a set of features plus Joule Premium Aligned to it. The features will be aligned to different products depending on what is included within the package.

Example Customer Package:

#### AI for Business Users (HCM) [package]

- Joule Premium for HCM [Joule]
- SAP SuccessFactors Recruiting [Product]
  - Job description Enhancement [Feature]
  - Interview Questions generator [Feature]
  - Applicant Screening [Feature]
- SAP SuccessFactors Performance and Goals [Product]
  - Skills Architecture Creation [Feature]
  - Performance Goals Creation [Feature]
  - Development Goals Creation [Feature]
- SAP SuccessFactors Opportunity Marketplace [Product]
  - Skill Inference for Assignment Creation [Feature]

### 3.3.4 User Assignment

**Evolution Note:** The approach described below reflects the simplified user count declaration model (a.k.a unnamed users) adopted after initial PUPM rollout feedback and

*board guidance. This represents a significant departure from earlier explicit user assignment approaches.*

After collected feedback from the initial PUPM rollout and board guidance, customers do not need to assign premium packages to users anymore explicitly. Instead, they will give us just a total number of the users that they assume should have the package assigned for billing, while the access control would be achieved via standard authorization controls to premium features like they do it for any other feature.

To control that customers do not abuse the given number of users, we need to calculate the number of active users for the month that consumed features from a given package and charge for the maximum of both.

### 3.4 Commercial Metering for AI PUPM

The AI PUPM model consists of three main components: User Assignments, AI Units, and AI requests.

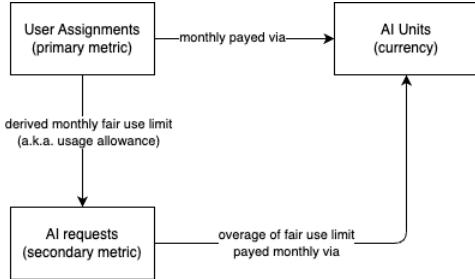


Figure 2 AI PUPM Components

Customers buy AI Units as a virtual currency fund. They can assign a number of users to packages. The Number of Users Assigned is the primary metric and will get billed monthly in AI Units. There is no list of assigned and authorized user names. As the AI features create external LLM costs, SAP needs to add a secondary metric for a fair use limit. This limit is set in AI requests based on the monthly user assignment. Customers should not care too much about reaching the limit as it is set as high as it caters for a fair usage. AI requests are pooled on LoB package level. If the customer exceeds this limit on a monthly basis than the overage is depleted from the AI units balance. Applications will need to provide another secondary metric to meter active users per package. If the number of active users per month is higher than the number of assigned users, then the overage is depleted from the AI units balance.

Example: During the monthly billing period, customers can increase and reduce the number of users per packages. Charges are based on the high water mark of assigned users. For example, if you assign 25 HCM users today, 35 tomorrow, and 28 later, you will be charged for 35 users, the maximum number. Based on this count of 35 users, we provide 182,000 requests, calculated from the package's rate of 5,200 requests per user. Overconsumption of requests should rather be an exception, but it is possible and will get charged extra.

## 4 KEY ASSUMPTIONS AND BOUNDARY CONDITIONS

### 4.1 Commercial Usage Metering

Usage metering is a sub-domain of observability. It describes the need to capture business-driven metrics from our apps and services. Those metrics provide insights about tenant-specific usage, supporting the implementation of commercial models, usage insights and cost analysis. The Corporate Product Standard [Commercial Usage Transparency](#) defines the business requirements for commercial usage metering and [TG51 Metering](#) defines the technical requirements for usage metering. [Unified Metering](#) provides the ingress point for usage metrics at SAP.

The data flow of usage metrics starts with collecting telemetry data. Telemetry data is the automatic collection and transmission of information from remote sources for monitoring and analysis. For usage metering these are often user actions or transactional data, aggregated to a technical metric. The aggregation happens often directly in the app that owns the telemetry data. This aggregation is often on a daily or more fine granular level.

As apps shall not know any commercial context, technical metrics lack the commercial context as well. Apps can be part of multiple commercial models. As consequence apps need always to send all technical metrics, needed for any commercial model. Reporting systems, like Cloud Reporting or billing systems, like Converged Mediation / Converged Charging (CM/CC) can enrich technical metrics with contractual data, filter and aggregate them to calculate the relevant commercial metrics.

### 4.2 Baseline: Existing GenAI Metering Framework

AI PUPM is built upon SAP's established [Generative AI metering framework](#) as defined in [TG52](#). This framework describes how AI feature consumption is currently metered via Unified Metering using a generic approach that works independently of contractual commercial models. **This ADR assumes the TG52 framework as the baseline.** Applications already send AI consumption metrics (requests, records) to Unified Metering following TG52 guidelines. The billing system (CM/CC) routes these metrics based on tenant IDs and contract information. **PUPM-specific enhancements to this baseline are described in Section 5 (Solution).**

### 4.3 Consumption-based aspect of PUPM

Although PUPM creates a single metric how to sell solutions bundles, the individual applications may still require their specific usage metrics. User licenses might come with an included but limited usage capacity for the individual applications. Consumption may get metered and overage may get charged additionally.

### 4.4 Envisioned Open Telemetry Strategy

SAP envisions a harmonized observability infrastructure based on [OpenTelemetry](#). We already standardized with traces via [TG48](#), metrics via [TG49](#), and logs via [TG50](#). Also [TG51](#) mentions the goal to measure usage via OpenTelemetry. OpenTelemetry is an open-source observability framework and toolkit designed to create and manage telemetry data such as traces, metrics, and logs. It provides a standardized way to instrument, generate, collect, and export telemetry data for analysis in support of distributed tracing and observability. Unified Metering is going to provide an OpenTelemetry endpoint as well. **We MUST verify that new kind of usage measurements can be mapped to the Open Telemetry protocol as well.**

The harmonized observability framework enables SAP to roll out a central routing and processing layer, called OctoRoute. OctoRoute helps to decouple telemetry producers (e.g. applications, services, etc.) from telemetry consumers, i.e. different monitoring use cases. This also helps to more cleanly separate observability data ingestion, routing, storage, and consumption, and provides a telemetry bus that both producers and consumers of telemetry data can build on. We do not have yet an aligned understanding if and how usage metrics shall get routed via OctoRoute. However, **we MUST validate new usage metering concepts with OctoRoute as well, to not build unintended roadblocks for future target architecture decisions.**

#### 4.5 Data Protection and Privacy Considerations

SAP may only use “Customer Data” and personal data included therein as permitted by its customer-facing agreements. This is in particular important in case of personal data of customers, since SAP’s data processing agreement (DPA) implies that SAP generally only acts as a processor and uses such personal data to provide the cloud service to its customers. Customer Data in terms of SAP’s [GTC](#) means any content, materials, data and information that Authorized Users enter into the production system of a Cloud Service or that Customer derives from its use of and stores in the Cloud Service (e.g. Customer-specific reports). Customer Data and its derivatives will not include SAP’s Confidential Information. Customer Data therefore includes user ID data (here: *inter alia* user IDs and user email addresses) from the customer’s cloud systems.

While SAP’s GTC at least contain an implicit permission for SAP to use Customer Data for monitoring customer’s compliance with the agreed usage metrics (see 2.3. Verification of Use), there is no such permission to use Customer Data and personal data included therein for other use case. This lack of permission includes repurposing information collected for usage metering for the other use case. Even if one could argue that information generated in the course of monitoring customer’s compliance with the agreed usage metrics became Cloud Materials (at least as long as the information does not contain Customer Data or could be used to identify individual users), which is SAP IP and can be freely used by SAP, this approach would raise concerns from a transparency perspective. Microsoft was heavily criticized for tracking, anonymizing and using user IDs *inter alia* for billing and calculating sales commissions without providing the necessary transparency to customers which is in our view comparable to accessing a customer’s user data with the purpose of not only monitoring the agreed usage metrics but also for repurposing the so obtained information for further purposes. In order to avoid the risk of customers claiming breaches of SAP’s confidentiality obligations and use of Customer Data and personal data in breach of the GTC and DPA, SAP should provide transparency to customers about such secondary use of Customer Data beyond auditing the customer’s compliance with the agreed usage metrics. However, SAP cannot unilaterally change the GTC in any existing customer agreements and any other ways of relaying information such as e.g. in the product documentation or on information websites cannot overrule the terms of the GTC. As a consequence, there will always be a certain likelihood that not all customers have agreed to or are even aware of SAP’s Customer Data usage whereas some of the risk mentioned above will remain.

**If personal information, like user IDs, are sent to our analytical systems, we MUST guarantee that processing that data happens in the boundaries of our GTC. The runway owner is responsible for ensuring DPP compliance at each processing stage (e.g., GenAI Hub, OctoRoute, HAUM) and must verify that data is used only for purposes permitted under the GTC.**

## 5 SOLUTION

**Disclaimer:** This chapter outlines a single implementation approach. Typically, multiple viable solutions would be presented; however, the PUPM project has considered various versions of the commercial model and concurrently determined potential methods for their implementation. The previously discussed PUPM options are outside the scope of this ADR. The objective of this ADR is to communicate and review the latest technical solution developed by the PUPM project with the relevant Lines of Business.

### 5.1 User ID for Metering

To accurately calculate the maximum number of active users for each month, we must work with stable user IDs across relevant products and/or tenants for a specific package. For customers who have adopted and implemented the Global User ID concept, applications must utilize the Global User ID value. If the Global User ID is unavailable, applications should fall back to the locally maintained userName of the user. The userName is not consistently aligned across all SAP products (some use an email-like value for a username, while others use a value like an I/D-number, etc.). However, it's highly likely that customers have it aligned within products and tenants of a single package. Nevertheless, in rare instances where the alignment is not the case, customers may end up being double-charged, so it is still strongly recommended that they adopt the Global User ID, although it is not mandatory in this specific scenario.

### 5.2 User ID Enhanced AI Consumption Metering by Apps

TG52 applies: The billing system routes the consumption metrics based on the customer's contract to the respective billing logic.

Applications use the GenAI Hub/Joule as AI features runtime. The **consumption metrics** are sent either directly by the apps or indirectly via the GenAI Hub. For AI PUPM we differentiate between AI features assigned to packages and standalone / transactional features. Consumption of package assigned features is getting deducted from the available fair use limit. Consumption of standalone / transactional features is directly converted to AI Units.

PUPM required measures for AI feature metrics are requests and records. Existing AI features might report legacy measures like pages, clicks, or transactions. They don't need to be changed but getting converted to requests by the billing engine, which then accumulates the reported metrics to the secondary commercial metric of **monthly request consumption**. Standalone / transactional features shall report requests only.

Those consumption metrics MUST be enhanced with the User ID to enable the active user count aggregation.

### 5.3 Telemetry Flow

The diagram illustrates how metering data flows for AI PUPM end-to-end. AI PUPM specific data is colored blue. Generic data is colored green.

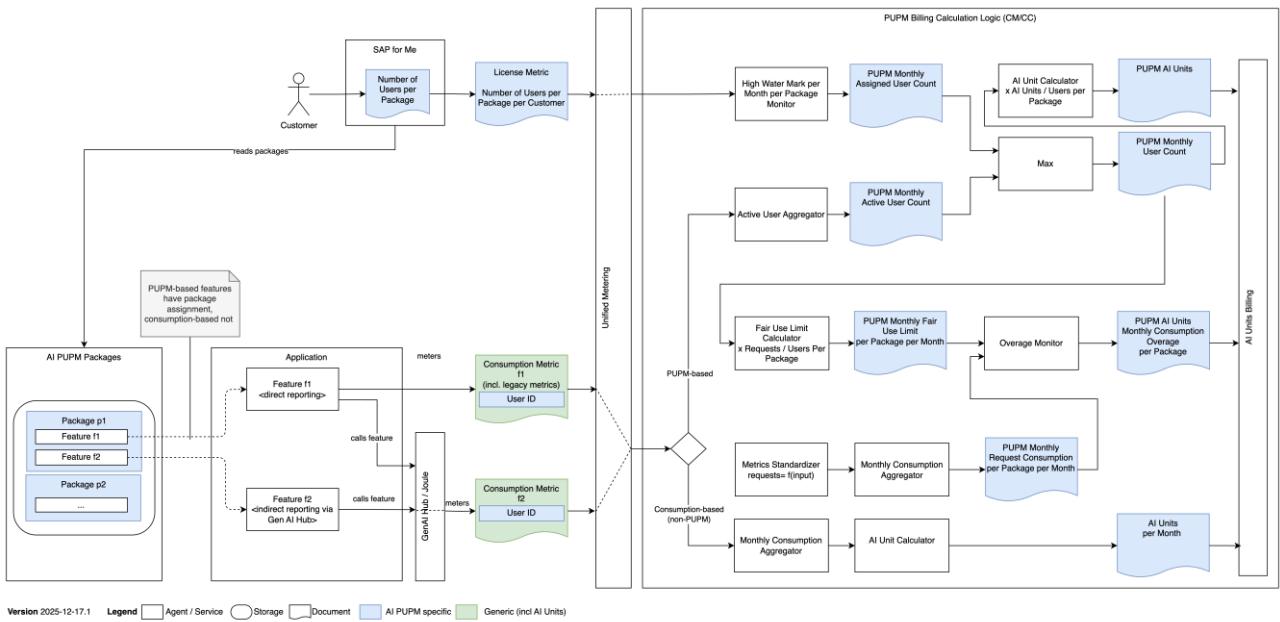


Figure 3 AI PUPM Telemetry Flow

The AI PUPM Packages demonstrates how features are organized by packages. Customers assign **number of users per package** which is the foundation for our technical license metric. The primary commercial metric is the **monthly assigned user count**. The technical license metrics are filtered for the monthly high water mark entry.

Applications need to add a User ID property to their AI consumption metrics. This property is used to calculate the **monthly active user count**. The **monthly user count**, which is the highest number, either assigned users count or active user count will be used to bill our customers in AI Units.

The monthly user count is also used to calculate the **monthly request fair use limit**.

Based on the monthly fair use limit and the monthly request consumption, billing can calculate a potential **monthly consumption overage**, which would be used to bill the customer as well. Such billing should be rather an exception as the commercial model as such is designed in a way that the AI request limit is as high as it caters for regular usage patterns.

## 5.4 Payload Examples

*The following examples are preliminary and reflect the present stage of discussions. Please note that the actual data format may be subject to change.*

The following example shows the envisioned structure how to report license metrics via the Unified Metering JSON format. The value property of the measure object shows for the MVP the amount of assigned users per package.

```
{
  "id": "e02cdaf6-ff8c-11ed-be56-0242ac120002", // Event ID. To help identify
  duplicates in case of retries.
  "timestamp": "2025-09-22T09:27:00.339Z", // Event timestamp. Time component can be
  empty if the metric is a daily aggregation
  "consumer": {
    "originServiceInstance": {
      "package": "PUPM"
    }
  }
}
```

```

        "id": "3dff908d-9eda-4df9-a859-b9f120ea08da", // Global Tenant ID
        "type": "S4ME" // the CLD system role of the calling application, SAP for Me.
    }
},
"measure": {
    "id": "ASSIGNED_UNIQUE_USERS", // the name of the measure ID which is always
"assigned unique users" for AI packages
    "value": 500 // [MVP] the amount of unique users assigned to the package
},
}

```

Figure 4 License Metric Example Payload in Unified Metering JSON format

The next example shows the payload how to measure the consumption of AI features. The id property of the measure object is used to identify the feature.

```

[
{
    "id": "e02cdaf6-ff8c-11ed-be56-0242ac120002",
    "timestamp": "2025-12-15T09:27:00.339Z",
    "consumer": {
        "tenantBusinessType": "ZH526",
        "user": "abcd123",
        "originServiceInstance": {
            "id": "f78e35d4-42b3-41f8-8a43-d642ec35d3c4",
            "type": "S4_P1"
        }
    },
    "measure": {
        "id": "AI-XXXXX-ZZZ-001",
        "value": 3
    },
}
]

```

Figure 5 AI Feature Consumption Metric Example Payload in Unified Metering JSON format

## 6 DECISION

### 6.1 User Identification for Metering

**Applications MUST enhance their AI consumption metrics with User IDs to enable accurate active user count calculation:**

- **Primary identifier:** Global User ID (when available and implemented by customer)
- **Fallback identifier:** Local user name
- Customers without consistent user identifiers across tenants risk double-charging and are strongly encouraged to adopt Global User ID

### 6.2 AI Consumption Metering Requirements

**Applications MUST follow TG52 guidelines for AI feature consumption metering with the following enhancement:**

- All consumption metrics MUST include the User ID property
- Measures: requests, records, and steps (legacy measures like pages, clicks, transactions converted by billing engine)
- Billing system routes metrics based on contract type to appropriate billing logic

### 6.3 User Count Declaration Model (a.k.a Unnamed Users)

**The user count declaration model approach is adopted for package user assignment:**

- Customers specify total entitled user count per package via SAP for Me
- No explicit named user assignment lists maintained
- achieved through standard application authorization mechanisms

### 6.4 Commercial Metrics and Billing

**Monthly billing calculation based on three metrics:**

1. Assigned user count (high water mark during billing period)
2. Active user count (distinct users who consumed features)
3. Request consumption threshold (calculated from assigned user count)

**Billing logic:** Customer charged for **maximum of assigned user count OR active user count** in AI Units, plus any request consumption overage beyond fair use limit.

### 6.5 Implementation Requirements

- SAP for Me: Collect and meter assigned user counts per package
- Applications: Enhance existing consumption metrics with User ID (no other changes to metering approach)
- Billing system (CM/CC): Calculate active user counts from User ID-enhanced metrics and apply billing formulas

## **7 DECISION PROTOCOL**

<Record here the individual decision votes of org unit representatives, who have stake and taken part in the decision-making by simply including a screenshot of the Jira dashboard of the CPAConnect doc review tool>.

To see all related Jira tickets for this review request [click here](#).

\*oppose = do not support decision but accept the decision in case a majority of colleagues support it.

\*\*veto has the power to override the majority of support. If a decision is stopped by veto and cannot be solved in the WG, those decisions will be taken via the CPA PMO to the CPA Steering and then potentially to Engineering Senior Leadership Team as highest decision-making body.

The decision process is documented on the [CPA Landing page](#).

Note:

SME = Small and Medium-Size Enterprises

ISBN = Intelligent Spend and Business Network

IPM = Industry Product Engineering (former CIM)

AIS = Application Innovation Services

IBSO = Innovative Business Solutions

## 8 GLOSSARY

Term	Definition
<b>Active User</b>	A distinct user who has actually consumed one or more features from a package during a billing period, as measured by metering data.
<b>AI Units</b>	Virtual currency that customers purchase to consume AI features and services. Users and consumption are converted to AI Units for billing purposes.
<b>Assigned User</b>	The total number of users that a customer declares as entitled to use a specific package, entered via SAP for Me. No named user list is maintained.
<b>Billing Context</b>	Information that identifies the commercial contract and package associated with metering data, used to route metrics to appropriate billing logic.
<b>CBC</b>	Central Business Configuration, component that manages package activation status and potentially stores user count information per package.
<b>CM/CC</b>	Converged Mediation / Converged Charging - SAP's billing systems that calculate charges based on metering data and contract information.
<b>Commercial Metric</b>	Business-level measurement used for billing purposes (e.g., monthly user count, AI Units consumed). Calculated from technical metrics with contract context.
<b>Consumption Metric</b>	See Technical Metric
<b>DPP</b>	Data Protection and Privacy - SAP's compliance framework ensuring proper handling of personal data including user IDs in metering systems.
<b>Entitlement</b>	The specific features, services, or modules a user has access to within purchased software. In PUPM, entitlements are bundled with packages.
<b>Fair Use Limit</b>	A calculated threshold of AI requests per month based on assigned user count. Designed to accommodate normal usage patterns; exceeding triggers overage charges.
<b>GenAI Hub</b>	SAP's runtime environment for AI features, which applications use to deliver AI functionality and may send consumption metrics.
<b>Global User ID</b>	A unique, cross-system identifier for users maintained across SAP Cloud Identity services. Preferred identifier for accurate user deduplication in metering.
<b>High Water Mark</b>	The maximum value reached during a billing period. For user assignment, the billing is based on the highest user count declared during the month.
<b>IAS</b>	Identity Authentication Service - Component of SAP Cloud Identity that handles user authentication and can store user groups/attributes.
<b>License</b>	Legal agreement granting a user permission to use software. In PUPM context, licenses are bundled at the package level rather than per feature.
<b>LOB</b>	Line of Business - Organizational unit or business domain (e.g., HCM, ERP, Supply Chain) used to group related products and features into packages.
<b>Overage</b>	Usage beyond included entitlements that results in additional charges.
<b>Package</b>	A bundle of related features and Joule Premium capabilities, typically aligned to a LOB or solution domain, sold on a per-user-per-month basis.

Term	Definition
<b>PUPM</b>	Per User Per Month - Pricing model where customers are charged based on the number of users assigned to packages on a monthly basis.
<b>Russian Doll Model</b>	Package hierarchy where higher-tier packages include all capabilities of lower-tier packages (e.g., Finance Premium includes all Finance Base features).
<b>SAP for Me</b>	Customer-facing portal where customers manage their SAP cloud services, including declaring user counts for PUPM packages.
<b>SCI</b>	SAP Cloud Identity - SAP's identity and access management platform consisting of IAS (authentication) and IPS (provisioning) services.
<b>Technical Metric</b>	Application-level measurement sent to metering systems without commercial context (e.g., feature usage count, requests by user ID).
<b>Telemetry Data</b>	Automatic collection and transmission of information from applications for monitoring and analysis. Foundation for usage metering.
<b>TG (Technology Guideline)</b>	SAP's internal technical standards. Referenced TGs include TG48-51 (observability) and TG52 (GenAI metering). In the meantime TGs got moved into Product Standards.
<b>Unified Metering</b>	SAP's centralized ingestion point for usage metrics from applications, supporting both commercial and functional metering use cases.
<b>User Count Declaration Model</b>	(a.k.a. unnamed users) Approach where customers specify total user count per package without maintaining explicit named user assignment lists. Access control via standard authorizations.
<b>User Assignment</b>	The process of designating which users are entitled to use a package. In PUPM, this is a count rather than a named list.
<b>User ID</b>	Identifier used in metering to track individual users. Should be Global User ID when available, otherwise falls back to local username.
<b>User Metering</b>	The process of measuring and reporting on the number of distinct users consuming features, used to calculate billable user counts.

## 9 APPENDIX

### 9.1 PUPM for SaaS Suite Northstar's Business Suite

#### **DOCUMENT STATUS: EXPLORATORY - NOT DECISION-READY**

*This appendix documents the current understanding of PUPM requirements for the SaaS Suite Northstar Business Suite. The content is incomplete and should be considered input for future architecture work, not approved decisions.*

*Known limitations:*

- *The user assignment approach described here predates the simplified user count declaration model (a.k.a. unnamed users) approach adopted for AI PUPM.*
- *The metering strategy for mixed metrics (user-based, capacity-based, tenant-based) requires further definition.*

- Integration touchpoints with the universal PUPM framework need validation.
- Readers should focus on understanding Business Suite-specific requirements rather than treating this as a finalized architecture.

### 9.1.1 A new licence model for the Business Suite

SAP wishes to shift the pricing and packaging of Public Cloud to a modular approach with multiple entry points and flexibility to attach additional products/solutions based on individual user need. Currently there are five packages foreseen with different business scope included. While packages in one area follow a Russian Doll model (see hierarchy diagram below), the main change of this model is that customers buy specific user types, not just a number of licenses. E.g. a user with a *FIN Base* license can access all of the capabilities within this package – see *FIN Base* lined out in the table below.

SAP Business Suite   LoB packages and pricing proposal					
Package overview   Offer per-user entry packages with path to upsell					
Per-user entry packages	FIN	SCM	HCM	PROC	CX
	SAP Finance Base	SAP Supply Chain Management Base*	SAP Human Capital Management Core	SAP Strategic Procurement	SAP Sales Cloud (v2)
	SAP Finance Premium	SAP Supply Chain Management Premium*		Operational Procurement will be included in Finance Premium	SAP Service Cloud (v2)
Additional packages for narrower needs	Closing & Consolidation	Planning	Career Growth & Development		Commerce
	Treasury & Banking	Manufacturing	Pay for Performance		Emarsys
Additional with potential for scaling	Assets & Service		Talent Acquisition		
Business Data Cloud & Analytics					
AI					
SAP Build					
BTP EA					
Integration Suite					
BTM					

FIN BASE
GROW S/4 CORE (Finance ONLY)
SAP Document and Reporting Compliance
SAP S/4HC for contract and lease management
SAP S/4HANA Cloud for receivables management
SAP S/4HANA Cloud for cash management
SAP Multi-Bank Connectivity, corporate base connection package
Multibank Connectivity Transactions
SAP S/4HANA Cloud Advanced Payment Management
Market Rates Management, Refinitiv
Build Everything Base User
Build Everything Developer User
Build Everything Runtime
SAP Document and Reporting Compliance, cloud edition
WalkMe
SAP Taulia Base

As of today, the following SKUs exist.

- 8019763 - SAP Finance and Supply Chain self-service
- 8019735 - SAP Finance and Supply Chain operations
- 8019752 - SAP Finance and Supply Chain developer
- 8019322 - SAP Finance Base
- 8019461 - SAP Finance Premium
- 8019364 - SAP Supply Chain Base
- 8019623 - SAP Supply Chain Premium
- 8019781 - SAP Finance Base and Supply Chain Base

All of these packages have different capabilities / SKUs included, whereas some of the capabilities overlap or are a subset of a higher SKU. This is called Russian Doll and the hierarchy can be visualized as follows:



That means, that FIN Premium would include all capabilities of FIN Base; SCM Base includes all of Operational, etc ... Combo Base would include all of FIN Base and SCM Base.

### **9.1.2 PUPM within packages**

User-based licensing implies that licenses for each module are assigned to a named user in an organization with the ability to reassign licenses and seamlessly upgrade. Otherwise, license compliance calculation will not be able to assign a used license to a specific user. In general, we see the following major areas to tackle:

#### **1. User assignment & license management**

Similar to AI PUPM, customers have to assign users to license types. Available license types including their amount are inherited from the order in CRM system. The following license types exist:

- FIN BASE
- FIN PREMIUM
- SCM BASE
- SCM PREMIUM
- ENTERPRISE
- OPERATIONAL
- SELF-SERVICE
- DEVELOPER

#### **Decision on license metrics for each application of the package**

Currently there are 2 different types metrics (user-based, capacity-based) and 2 different ways, how metrics in the packages are treated (per user or per tenant). As of today, many products' entitlement in the package are attached to the main SKU by a certain calculation rule. Going forward, it has to be decided which of the products are supposed to report on users, which are assigned to the respective license type.

#### **2. User Synchronization**

User ID's must be synchronized across all systems in a package including their entitlements. Regardless, if the license metric is user-based or capacity-based per user (e.g. 1000 documents per user), all relevant entitlements must be synchronized with the systems of the package, where they apply to.

#### **3. License metering**

Reporting of license usage must be my global user ID. Each 'participating' product/system will report license metric per user. Let us take the example of *SAP Sustainability Data Exchange* below – the system should report *number of documents* for each user.

Product	Entitlement	Per user / tenant	metric
SAP S/4HANA Cloud for EHS environment management	NA	User	Records
SAP S/4HANA Cloud for EHS workplace safety	NA	User	Records
PLM system integration for SAP S/4HANA Cloud, public edition	NA	User	Capacity Units
SAP S/4HANA Cloud for product compliance	500.000	Tenant per year	Documents
SAP Sustainability Footprint Management	250.000	Tenant	Records
SAP Sustainability Data Exchange	40	User	Documents
SAP Responsible Design and Production	6.000	User	Records

## 9.2 SAP Cloud Identity Service Load Considerations

If a replication of users between SCI and another component, like a license manager, would be required, we need to understand the impact on load.

**Scenario 1: Implicit Approach:** In IAS (Identity Authentication Service), licensing can be aggregated based on authorizations. Authorizations are tied to licenses. **Advantage:** This aligns with how customers currently operate.

**Marketing Requirements:** Marketing wants us to explicitly assign licenses to users. However, this is not handled by the User Admin, so it doesn't fit within the IAS framework.

**Compromise Solution:** We could implement a separate license management system, but this is not currently desired.

### Scale Considerations for Potential Full User Replication:

- 12,000 customers with 18,000 tenants
- BTP (Business Technology Platform): 50,000 customers
- Large enterprise example (BMW): 300,000 users
- Replication takes 8 hours for BMW
- Average calculation:  $12,000 \times 10,000$  users

**User Data Availability:** For many customers, we don't have direct user data access. This applies to BTP/XSUA scenarios where we operate in proxy mode.

**Delta Distribution:** This approach is feasible if we only distribute incremental changes (deltas).

**Authorization Complexity:** Individual users have more authorizations than license types. Each user typically has 30-100 authorizations in S/4HANA systems.

**Audit Requirements:** When auditing 13,000 users, we must persist the user list for the customer. Currently, IAS maintains the current state and audit trail, but reconstructing previous lists retrospectively is challenging.

### Key Issues Identified:

1. Misalignment between marketing requirements and current IAS capabilities
2. Scalability concerns for large enterprise customers
3. Data availability limitations in proxy scenarios
4. Complex audit trail reconstruction requirements