UNIT4

Unit4 Cloud Technical Guidelines and Limits

Cloud Operations

VERSION 1.6

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1. Introduction

This document supplements the Unit4 Cloud service description and outlines the technical specifications, performance criteria and quality standards necessary for Unit4 SaaS implementation and subsequent usage.

2. Scope

The beginning of each section of this document sets out which Unit4 SaaS it applies to.

3. Protocols overview

Scope: All Unit4 SaaS

Topic	Description		
FTP			
Protocol	SFTP protocol is used with AES256-SHA2 cipher		
Scope	SFTP is used to import or export data only. Executable files are prohibited.		
Credentials and connected folders	 Two sets of credentials are provided per environment (i.e. 2 usernames/passwords for production, and 2 usernames/passwords for each NPE). The supported authentication type is user/password only. One set of credentials has access to the Data Import folder, and the second set of credentials has access to the Data Export folder. Customers cannot choose the username or password for new credentials, as these are generated by Unit4 in compliance with our security protocols. Credentials cannot be reassigned to a different folder.¹ Customers are allowed to request a password change for each credential once per year. 		
Number of concurrent connections	50 concurrent connections from one SFTP account		

¹ Customers can request additional credentials (FTP access) for other folders, which may incur additional charges.

Topic	Description		
Email			
Domain	Unit4 provides basic e-mail functionality for sending messages to recipients with a designated Unit4 domain as sender. In case the Customer requires more advanced features (e.g., bounce back emails, DKIM support, IMAP support, custom domain), Unit4 SaaS can use Customer's email servers, if they are reachable by Unit4 SaaS and capable of handling customers' email demands.		
Protocol	SMTP over TLS		
Email attachment max size	20 MB		
Authentication			
Protocols supported	For Web Client, Desktop Client ² : WS-Federation, SAML-P and OpenID Connect support (see Unit4 People Platform Service Description) and application-specific credentials.		
Internet communic	cation		
Protocols supported	Access to the Web Client is delivered over the public internet using an HTTPS connection (RSA 2048 bits - SHA256 with RSA). Access to the Desktop Client is carried out using a 2048 bit encrypted thin client connection over TLS with SHA-2 RSA Encryption Algorithm over the public internet.		

4. Report queues and timed processes

Scope: Unit4 ERP CR and ERP7

4.1. Report queue

The Unit4 Additional Report Queue service provides Customers with extra report queues beyond the standard allocation included with their Unit4 SaaS. By default, clients are provided with up to four (4) report queues at no additional cost, which include:

- Two (2) queues per environment (one for x86 and one for x64 architecture); and
- Up to two (2) additional queues per environment based on specific needs.

² Not applicable for the main Citrix Workspace App webpage.

Customers may also qualify for one (1) additional queue at no extra charge for every 1,000 FTE Employees or 300 named users (as applicable), with the ability to request up to four (4) extra queues.³

If the Customer requires any additional queues these can be procured from Unit4 for an additional charge.

Unit4 SaaS supports only serial report queues. To ensure reliable performance and overall platform stability, parallel report queues are not supported.

4.2. Timed processes queues

Each Customer is eligible for only one queue per business server process (e.g., AINAPS, ACRALS, Workflow) to ensure efficient and equitable resource allocation.

5. IP Intelligence service

Scope: All Unit4 SaaS

By utilizing the IP Intelligence service, Unit4 strengthens its ability to monitor and analyze IP traffic, greatly enhancing the real-time identification and mitigation of potential security threats. The service includes:

Enhanced Threat Detection: The IP Intelligence service more effectively identifies suspicious activities and potential security threats. By examining IP traffic patterns, Unit4 can promptly detect and respond to anomalies that may signal cyber-attacks or malicious behavior.

Proactive Mitigation: Through real-time analysis, the upgraded system proactively blocks malicious IP addresses, preventing security breaches before they happen. This strategy helps maintain the integrity and confidentiality of data.

Improved Network Performance: By filtering out harmful traffic, the IP Intelligence service boosts overall network performance, ensuring that legitimate traffic flows smoothly and efficiently.

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³ The customer is entitled to request a maximum of four (4) additional queues in accordance with the 1,000 FTEs rule. Therefore, even if the customer has 5,000 FTEs, the maximum number of additional queues that may be requested under this provision remains limited to four (4).

6. Web API rate limits

Scope: All Unit4 SaaS

As Unit4's digital ecosystem evolves, the stability and security of our cloud services remain crucial. By setting API limits, Unit4 ensures high-quality service and equitable resource use across all Unit4 SaaS customers. Our dedication to equal access, consistent performance and advanced security measures provides a dependable and secure experience for all Unit4 SaaS customers.

6.1. Limits Set

Environment type	The applicable limit
PROD, PREV, ACPT01 and ACPT02	500 HTTP requests per minute / per environment
ACPT03-11	1500 HTTP requests per minute / shared between the environments

6.2. Consequences of Exceeding Limits

Once the limits noted above are exceeded, subsequent HTTP requests will be suspended for a duration of one minute. During this interval, users will receive specific responses indicating the temporary unavailability of service.

- Response code: 429 Too Many Requests
- The Retry-After HTTP header, indicating the required back-off time in seconds
- Request for HTTP Connection closure
- Termination of the TCP connection.

6.3. Guidelines for Adaptation

To maintain peak performance and avoid service disruptions, the Customer should adhere to the following guidelines:

Monitor API Usage

Customer should keep a consistent check on its API use to avoid exceeding set limits and prevent unforeseen service interruptions.

Implement Efficient Request Management

- Batch Requests: Whenever possible, batch multiple operations into a single
 API call to reduce the total number of requests.
- Cache Responses: Cache API responses when dealing with static or infrequently updated data. It minimizes unnecessary queries, enhancing the efficiency of Unit4 SaaS.
- Request Throttling: Introduce a throttling mechanism to manage the SaaS's
 API call frequency and stay within the allowed threshold.
- o Handle Rate Limit Errors Gracefully this can include:
 - Retrying Requests: Implement exponential back-off for retries, gradually
 increasing the wait time after each rate-limited request to prevent hitting the
 limit repeatedly.
 - Use the Retry-After Header: Utilize the Retry-After header from Unit4 APIs, which specifies how long to wait before retrying. Unit4 recommends that the Customer follows this guidance to improve its retry logic.

If limits are consistently exceeded, despite optimization efforts, please reach out to Unit4 Customer Success for more guidance.

7. Technical limits of Unit4 ERP

Scope: Unit4 ERP CR and ERP7

System enforced limits:

Deployment model	Unit4 SaaS	Limit description	Limit value
All	ERP	httpRuntime executionTimeout	360 sec
All	ERP	maxRequestLength (file upload)	58368 KB
Public	ERP	TPS Interval	5 min
Tailored	ERP	TPS Interval	1 min
All	ERP	Web UI idle session timeout	20 min

All	ERP	Citrix idle session timeout	8 h
All	ERP	Web REST API timeout	120 sec
All	ERP	Web Services SOAP API timeout	120 sec
All	ERP	FTP connections/login frequency	30/min
All	ERP	Private API memory limit	4 GB

Operational recommendations*:

All	ERP	Web REST API call concurrency	10
All	ERP	Web Services SOAP calls frequency	60/min
All	ERP	Web Services SOAP calls concurrency	10
All	ERP	Workflow error records	1,000
All	ERP	AL records generated per day	20,000
All	ERP	Files per folder in Data Files (e.g. Data Import, Data Export, CF1)	150,000
All	ERP / Financial Information Center ("FIC")	FIC data extraction limit	2 years of data

*All above mentioned limits apply; policy enforced limits may give connection refused, timeouts or 500 Internal Server Error

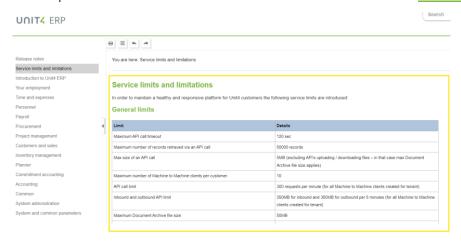
8. Technical limits of UNIT4 ERPx services

Scope: ERPx

System enforced limits:

Unit4 Product	Limit description	Limit value
ERPx	Web Application request timeout	110 sec
ERPx	Public API Gateway limit request timeout	240 sec
ERPx	Long running SQL statement timeout from web application/Public API	240 sec
ERPx	Long running SQL statement timeout for Information Browsers queries from business reports	60 min
ERPx	Long running SQL statement timeout from business reports	24 hours
ERPx	Web Application client idle session timeout	20 min

Additional service-specific limits and limitations details are available on the ERPx help page:



9. Technical limits of Unit4 Extension Kit

For a full overview of current Service limits, including Run Code action limits, please refer to the official documentation linked below:

Flow service limits - Extension Kit

10. Configuration thresholds for optimal and supported performance

Scope: Unit4 ERP CR and ERP7

The Unit4 ERP - Thresholds for optimal and supported performance document available here: Community4U, serves as a guide for Unit4 Professional Services, Partners, and ERP customers, outlining the recommended limits for a UNIT4 ERP Production environment. While it is possible to exceed these limits, Unit4 Cloud does not assure performance outside these boundaries. Unit4 conducts regular audits and snapshots of ERP database configurations, focusing on non-customer data like the count of rows in a table, to ensure optimal operation within the prescribed parameters.

11. Database replication limitations

Scope: Unit4 ERP CR, ERP7 and Unit4 Financials by Coda

Direct database access can be provided to a replicated read-only database. This service is <u>not</u> available for People Platform Services and the Nordic data centre, Conapto.

11.1.Restricted tables list

Due to technical constraints or performance requirements, the following tables are excluded from replication:

Unit4 ERP CR and ERP7:

- workflow tables
- help tables
- tmp tables
- amendment loggin0067
- system tables such as semaphore
- all 'shd' shadow tables

- 'remsupinfo','rempay','rem_due_date','acramendlog','acrshdamendlog','acramen dhistr','aindethead','aindetail','ainlog','aindatalink','acrprintblob'
- name not like ('H%'), name not like ('ahr%'), name not like ('%shd') and name not like ('asys%')

Unit4 recommends using balance tables to retrieve aggregate transaction information rather than requesting individual tables replication.

Unit4 Financials by Coda:

- com_authenaccessval
- com_authentication
- com_configprop
- com_extconfig
- com_extconfigdata
- com_history
- com_historyactivity
- com_historydate
- com_historytod
- com_lic_resdata
- com_licence
- com_licence_snap
- com_licenceevent
- com_loghead
- com_logline
- com_outputdevice
- com_passwdlist
- com_prefmas
- com_prefmaslist
- com_repobj
- com_repobjdatachunk
- com_repobjmetadata
- com_session
- com_session_snap
- com sessiondata
- com_slotusage
- com_slotusage_snap
- com_syslog
- com_tasks
- com taskstate
- com_taskstateitm
- com_wfsettings
- com_wftask
- com_xa_check
- efa_temptrans
- ein_failedsubmissions
- ein_submissionerrors

- itk_extract_filter
- itk_process_settings
- oas_archead
- oas_workingbalance
- pop_loadgrnline
- pop_workflow

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