CYBERTEC POSTGRESQL SUPPORT POLICIES

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SUPPORT PACKAGES

CYBERTEC offers flexible PostgreSQL Support packages to customers including multiple services and guarantees. All important details will be outlined and discussed in great detail.

ADVANCED SUPPORT SERVICES

We offer three types of services which customers can choose from:

Standard:	The light option providing basic security
Pro:	The professional solution for medium sized customers
Enterprise:	The enterprise grade high-scalability solution

Our services are structured in an easy to understand yet flexible way:

Services	Standard	Professional	Enterprise
Bug Fixes for PostgreSQL	\checkmark	\checkmark	\checkmark
Supported PostgreSQL versions	7 years	7 years	Unlimited (No outphasing)
Ticket System	_*	\checkmark	\checkmark
Number of Tickets	Limited	Limited	Unlimited
Support for emergency restore	-	\checkmark	\checkmark
PostgreSQL in Docker	\checkmark	\checkmark	\checkmark
Remote login	-	-	\checkmark
Slow query tuning	-	-	√ **
Default response time	1h	45min	30min
Support times	8x5	8x5	24x7

*Email Support

** For business critical slow queries causing problems



SUPPORT RESPONSE TIMES

We offer the following response times to our customers.

Response Times	Standard	Professional	Enterprise
P1 - Critical	60min	45min	30min
P2 - High	5h	4h	2h
P3 - Medium	2 business days	2 business days	2 business days
P4 - Low	3 business days	3 business days	3 business days

Urgency and criticality are defined as:

		IMPACT			
		Extensive e.g.enterprise, region	Significant e.g. Business Unit, Location	Moderate e.g. a few users	Minor e.g. a single user
	Critical e.g. can no longer work	P1 - Critical	P1 - Critical	P2 - High	P2 - High
URGENCY	High e.g. can no longer perform primary work functions	P1 - Critical	P2 - High	P2 - High	P3 - Medium
	Medium e.g. can no longer do some work functions	P2 - High	P3 - Medium	P3 - Medium	P3 - Medium
	Low e.g. inconveniences	P4 - Low	P4 - Low	P4 - Low	P4 - Low



SUPPORTED OPERATING SYSTEMS

The following systems are supported:

Operating Systems	Standard	Professional	Enterprise
Linux			
RedHat Linux	\checkmark	\checkmark	\checkmark
SUSE Enterprise Linux (SLES)	\checkmark	\checkmark	\checkmark
Rocky Linux	\checkmark	\checkmark	\checkmark
Arch Linux	\checkmark	\checkmark	\checkmark
Ubuntu	\checkmark	\checkmark	\checkmark
Debian	\checkmark	\checkmark	\checkmark
Microsoft Windows	\checkmark	\checkmark	\checkmark
AIX	-	\checkmark	\checkmark
FreeBSD	-	\checkmark	\checkmark
Solaris	-	\checkmark	\checkmark

We support a variety of CPU architectures:



More operating system and CPU combinations are supported on request. Please reach out to <u>sales@cybertec-postgresql.com</u> for details.

ADDITIONAL SERVICES

CYBERTEC does not only offer superior PostgreSQL support services but will also assist with training packs, dedicated consultants as well as consulting pools.

Packages are available for each support model.



LANGUAGE SUPPORT

Our support services are available in the following languages:

Language	Standard	Professional	Enterprise
English	8x5	8x5	24x7
German	8x5	8x5	24x7
Spanish	8x5 (*1)	8x5 (*1)	8x5 (*1)

(*1): For consulting and support desk (no 24x7 hotline). Timezone in use: Argentina Standard Time (Buenos Aires, GMT-3)



ENTERPRISE HIGH-AVAILABILITY

PostgreSQL as well as PGEE (PostgreSQL Enterprise Edition) can be made to operate 24x7. CYBERTEC offers a comprehensive set of services including:

HIGH-AVAILABILTY POSTGRESQL CLUSTERS

MULTI-DATA CENTER POSTGRESQL HIGH-SCALABILITY POSTGRESQL

We ensure reliable services in a professional environment.



PATRONI HIGH-AVAILABILITY

Description:

Patroni is a High-Availability solution for PostgreSQL which allows for automatic failover and recovery. It is connected to a DCS ("Distributed Consensus System") and allows for superior uptime across entire database infrastructures.



It can be integrated with solutions such as Kubernetes (including the CYBERTEC Kubernetes Operator), OpenShift and SUSE Rancher.

We support Patroni in a non-Citus environment by default. Support for the CitusDB based solution is described separately.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL Versions	10 or higher	10 or higher	10 or higher

By default Patroni on Windows is not supported. Contact <u>sales@cybertec-postgresql.com</u> for Windows support.



PATRONI HIGH-AVAILABILITY FOR CitusDB

Description:

Patroni is a High-Availability solution for PostgreSQL which allows for automatic failover and recovery. It is connected to a DCS ("Distributed Consensus System") and allows for superior uptime across entire database infrastructures. It offers support for scalable CitusDB solutions which allow customers to operate a shared environment 24x7 with minimal downtime.



Patroni with CitusDB can be integrated with solutions such as Kubernetes (including the CYBERTEC Kubernetes Operator), OpenShift and SUSE Rancher.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	13 or higher	13 or higher	13 or higher

Patroni with CitusDB is not supported on Microsoft Windows.



PGBOUNCER CONNECTION POOLING

Description:

pgbouncer is a lightweight connection pooler for PostgreSQL which is capable of pooling connections to one or more database systems. It serves clients over UNIX domain sockets and TCP connections. pgbouncer maintains a pool of connections for each unique user, database pair and helps to reduce the overhead of connection creation.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for pgbouncer	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported pgbouncer versions	1.16 or higher	1.16 or higher	1.16 or higher

pgbouncer is not supported on Microsoft Windows.



VIP-MANAGER - VIRTUAL IP MANAGEMENT

Description:

Patroni is the de-facto standard for PostgreSQL high-availability in the Open Source world. To make a Patroni cluster transparent to the application in an on-premise environment it is possible to move a virtual IP address inside the cluster.

vip-manager does IP management for a Patroni cluster based in etcd or consul.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for vip-manager	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported vip-manager versions	2.0 or higher	2.0 or higher	2.0 or higher

We do not support vip-manager on AIX, Solaris and FreeBSD.



YAIM ("YET ANOTHER IP MANAGER")

Description:

Patroni is the de-facto standard for PostgreSQL high-availability in the Open Source world. vip-manager is able to assign one floating IP address to the primary. In contrast to vip-manager the yaim toolchain is also able to assign floating IPs to the read-only replicas to allow for more efficient load balancing.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for yaim	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported yaim versions	all versions	all versions	All versions

We only support Linux.



POSTGRESQL CONNECTIVITY & DRIVERS

We support a rich set of connectors and drivers.

SERVICES INCLUDED

Our support services include the following set of services:

Services	Standard	Professional	Enterprise
Bug Fixes for driver	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported driver versions	7 years	7 years	7 years

SUPPORTED DRIVERS

The following client interfaces are officially supported:

Driver/Connection	Standard	Professional	Enterprise
libpq (C, C++)	\checkmark	\checkmark	√
JDBC driver	\checkmark	\checkmark	\checkmark
Python psycopg2/3	√ *	√ *	√ *
Perl DBI	√ *	√ *	√ *
unixODBC for PostgreSQL	-	√ *	√ *
Go (pgx, pgxmock, lib/pq)	-	√ *	√ *
JavaScript (pg, libpq)	-	\checkmark	\checkmark
С	-	-	\checkmark

(*2): Support is not available for Microsoft Windows.



CLIENT TOOLS & GUIS

User interfaces are an important aspect of our daily work. Therefore we help customers in this area.

GUI interfaces	Standard	Professional	Enterprise
pgadmin4	\checkmark	\checkmark	\checkmark

We provide the following services for your tool chain:

Services	Standard	Professional	Enterprise
Bug Fixes for the tool	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported tooling versions	5 years	5 years	5 years



SUPPORT FOR POSTGRESQL EXTENSIONS

CYBERTEC offers support for an ever growing number of extensions to enable our customers to make full use of the PostgreSQL ecosystem.

SERVICES INCLUDED

Our support services include the following set of services:

Services	Standard	Professional	Enterprise
Bug Fixes for vip-manager	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	7 years *	7 years *	unlimited *

* Assuming the extensions supports the desired version of PostgreSQL

SUPPORTED STANDARD EXTENSIONS

Making full use of the PostgreSQL ecosystem is important and therefore the following standard PostgreSQL extensions are fully supported:

Standard PG Extensions	Standard	Professional	Enterprise
contrib modules	\checkmark	\checkmark	\checkmark
oracle_fdw	\checkmark	\checkmark	\checkmark
prefix	\checkmark	\checkmark	\checkmark
pg_squeeze	\checkmark	\checkmark	\checkmark
pg_timetable	\checkmark	\checkmark	\checkmark
pgbackrest	\checkmark	\checkmark	\checkmark
pgwatch2	\checkmark	\checkmark	\checkmark
pg_qualstats	-	\checkmark	\checkmark



pgrouting	-	\checkmark	\checkmark
pgTAP	-	\checkmark	\checkmark
PostGIS	-	\checkmark	\checkmark
orafce	-	\checkmark	\checkmark

SECURITY RELATED EXTENSIONS

Improving security is at the core of professional PostgreSQL support. Therefore we provide full support for the following modules

Modules	Standard	Professional	Enterprise
pgaudit	-	\checkmark	\checkmark
pgaudit_ext	-	-	√ *
Transparent Data Encryption (TDE)	-	-	√ *

* Through PGEE (CYBERTEC PostgreSQL Enterprise Edition)

SUPPORT HIGH-AVAILABILITY TOOLS

Standard PG Extensions	Standard	Professional	Enterprise
vip-manager	√ *	√ *	√ *
yaim	√ *	√ *	√ *
Patroni HA	√ *	√ *	√ *
Patroni HA for CitusDB	-	√ *	√ *
pgbouncer	-	√ *	\checkmark *

* Only for Linux. Support for other UNIX based systems is provided on request.



ORACLE_FDW: CONNECTING TO ORACLE

Description:

Integrating Oracle with PostgreSQL to exchange data is vital to run business applications. oracle_fdw is a way to expose data in Oracle as tables in PostgreSQL.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	7 years *	7 years *	unlimited *



ORAFCE: ORACLE COMPATIBILITY FUNCTIONS

Description:

orafce adds compatibility functions to mimic Oracle functionality in PostgreSQL. This is especially useful if you are moving from Oracle as the extension can dramatically reduce the effort needed to migrate from Oracle to PostgreSQL.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	7 years *	7 years *	unlimited *



PG_QUALSTATS: IN-DEPTH PERFORMANCE DEBUGGING

Description:

Performance matters and debugging the server to achieve maximum performance is key to success. pg_qualstats allows you to debug performance down to the "per operator level" and gives deep insights into bottlenecks.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	7 years *	7 years *	unlimited *



PG_SQUEEZE: DOWNTIME-FREE TABLE REORGANIZATION

Description:

pg_squeeze is a tool developed by CYBERTEC which allows you to reorganize a table with the lowest possible lock level. It is possible to shrink tables without causing downtime and therefore allows to solve the problem of table bloat in an intelligent and efficient way.



Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	7 years *	7 years *	unlimited *



PG_TIMETABLE: CUTTING EDGE SCHEDULING FOR POSTGRESQL

Description:

pg_timetable is a feature rich, database driven job scheduler for PostgreSQL developed by CYBERTEC which is able to run a variety of workloads. It is able to run SQL scripts, command line executables as well as builtin tasks such as sending emails and a lot more.



Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	7 years *	7 years *	unlimited *



PGBACKREST: ENTERPRISE-GRADE POSTGRESQL BACKUPS

Description:

Making sure that data is safe and secure is key to success. pgbackrest is the de-facto standard to handle PostgreSQL backups. We support pgbackrest for standard PostgreSQL as well as for PGEE (CYBERTEC PostgreSQL Enterprise Edition) which features on-disk encryption and thus requires special precautions on the backup side.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	10 or higher	10 or higher	10 or higher



PGROUTING: GIS ROUTING FOR POSTGRESQL

Description:

pgRouting is a solution which allows end users to perform routing calculation directly in the database and to leverage the power of PostGIS to build powerful solutions for spatial data.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	7 years *	7 years *	unlimited *



PGTAP: UNIT TESTING FOR POSTGRESQL

Description:

Managing and improving the quality of software can be done using unit tests. pgTAP is an extension providing all the infrastructure to implement unit tests for PostgreSQL functions, stored procedures and alike.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	7 years *	7 years *	unlimited *



PGWATCH2: ENTERPRISE POSTGRESQL MONITORING

Description:

pgwatch2 is a web based application developed by CYBERTEC which collects metrics from your PostgreSQL infrastructure and displays this data in easy to use dashboards. Support is available for PostgreSQL 10 or higher as well as for PGEE (CYBERTEC PostgreSQL Enterprise Edition).



Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	10 or higher	10 or higher	10 or higher

* Assuming the extensions supports the desired version of PostgreSQL

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POSTGIS: GIS SOLUTIONS FOR POSTGRESQL

Description:

PostGIS is the de-facto standard in the Open Source GIS world. It adds additional data types as well as operators and functions to handle geometric data. PostGIS provides a security upgrade path and is the foundation for many other Open Source tools.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	7 years *	7 years *	unlimited *



PREFIX: PREFIX SEARCH FOR POSTGRESQL

Description:

prefix implements longest prefix search for PostgreSQL. Prefix matching is both very common and important in telephony applications, where call routing and costs depend on matching caller/callee phone number to an operator prefix.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	7 years *	7 years *	unlimited *



WALBOUNCER: WAL FILTERING ON STEROIDS

Description:

walbouncer is a tool developed by CYBERTEC (as Open Source) allowing you to filter the transaction log which allows you to partially replicate databases. A typical use case is to replicate database "A" to one server and database "B" to some other machine by separating the WAL-stream into various pieces.

BOUNCER

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	√ *
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	7 years	7 years	unlimited *

* Only for Linux systems, no support for Microsoft Windows

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PGAUDIT: AUDITING FOR POSTGRESQL

Description:

Database auditing involves observing a database so as to be aware of the actions of database users. Database administrators and consultants often set up auditing for security purposes, for example, to ensure that those without the permission to access information do not access it.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	Yes	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	7 years	7 years *	unlimited *



PGAUDIT_EXT: EXTENDED ENTERPRISE AUDITING FOR POSTGRESQL

Description:

pgaudit_ext is an audit extension provided by PGEE (CYBERTEC PostgreSQL Enterprise Edition) which is able to write the audit trail using a separate UNIX user. This adds an additional layer of security by separating the audit log from the database.

Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	\checkmark	\checkmark	\checkmark
Ticket System	-	\checkmark	\checkmark
Supported PostgreSQL versions	7 years	7 years	unlimited*



POSTGRESQL TRANSPARENT DATA ENCRYPTION

Description:

Transparent Data Encryption (TDE) is a feature developed by CYBERTEC and provided by PGEE (CYBERTEC PostgreSQL Enterprise Edition) only. It transparently encrypts data on disk and therefore offers users the ability to protect PostgreSQL data files in the filesystem.

Encryption happens during I/O on the buffer level using a variety of encryption methods.



Services:

The following services will be included:

Services	Standard	Professional	Enterprise
Bug Fixes for extensions	√	\checkmark	√
Ticket System	-	\checkmark	\checkmark
Assisted data rescue	-	\checkmark	\checkmark
Supported PGEE versions	-	7 years	unlimited *

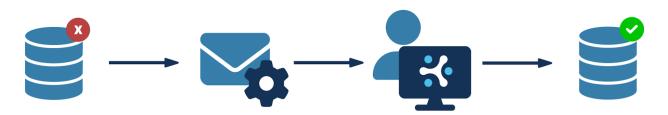


SUPPORT TOOLCHAIN

Handling support efficiently is on the core of our agenda. Therefore we offer a comprehensive support toolchain which reduces downtime and enables smooth 24x7 operations.

"Prevention is better than fixing"

Our toolchain is optimized to reduce the number of tickets by enabling proactive rather than reactive support. It automatically tracks your infrastructure to predict failure and to detect problems early before downtime occurs.



COMPONENTS & TECHNOLOGIES

Our technology consists of various components which work together in harmony to prevent problems from happening in the first place.

Simply run a ready-to-use support container in your infrastructure and our tooling will help to reduce the number of tickets to close-to-zero.

We use a variety of technologies:

- pgwatch2: Enterprise monitoring and metric collection
- **pg_deep_thinker:** We generate professional advice and compile recommendations to make your database work more efficiently.
- CRE (CYBERTEC recommendation engine): Deep query inspection and time series analysis engine
- pg_permissions: Automatic permission monitoring and divergence detection



CYBERTEC SUPPORT TOOLING: ADVANTAGES

Many hyperscalers earn by "inefficiency". What does that mean? The more inefficient your database is the more hardware you will buy in the cloud making hyperscalers earn.

"Winning by efficiency not inefficiency"

We at CYBERTEC offer a different approach: Our consultant-supervised recommendation engine tells you what you really need to know: Change column order, create or drop indexes, change runtime parameters or rewrite a query. Our engine will give real, professional advice which is then cross checked by real humans to achieve maximum efficiency.

Our engine will easily pay for itself by considerably reducing hardware consumption and ensuring smooth operations 24x7 while reducing the number of critical tickets to the absolute minimum.



GENERAL INFORMATION

The following section contains general information relevant to our support operations.

REMOTE LOGINS HANDLING

In case your support agreement allows us to log into your system or to share live information with our support team we provide access using the following technologies. Other technologies are available on request and will be part of the support agreement.

REMOTE CONNECTIONS

The following technologies are available:

Services	Standard	Professional	Enterprise
Telnet ¹	-	√ ²	\checkmark
Direct SSH	-	\checkmark^2	\checkmark
Hardware routers provided by the client (for SSH access)	-	-	\checkmark^3
Remote Desktop (RDP, to reach a PostgreSQL command line)	-	-	$\sqrt{4}$

¹Not recommended anymore because of security

²24/7 Professional Support (Remote) is provided

³Happens in coordination with the customer as an addon.

⁴Direct access is required. In case tunnels, etc. are required a special addon agreement is needed.

SCREEN SHARING TOOLS

In case direct SSH logins are not available the following screen sharing tooling can be used:





CUSTOM LOGINS

Other methods to log in (VPN, etc.) are available on request and can be procured using addons to your support agreement. Please reach out to <u>sales@cybertec-postgresql.com</u> for more information.

ADDITIONAL EXTENSIONS, PRODUCTS & SERVICES

Support for additional extensions, PostgreSQL tools and services are available on request. Please reach out to <u>sales@cybertec-postgresql.com</u>.

BUG FIXES & SERVICE DELIVERY

As above CYBERTEC will in many cases guarantee to fix bugs in PostgreSQL and in PostgreSQL related tools such as drivers. In case bug fixing is included in your package those bugs will be fixed within reasonable time which can vary depending on the type of problem found.

Additional preconditions are:

- Debugging packages must be installed on the system (= debugging symbols must be present in the binaries)
- In case bugs are investigated on the customer's system access to debugging infrastructure must be available (gdb, etc.).
- In case bugs are not investigated on the system the customer will provide a "core" file which allows for post-mortem inspection.
- The customer must provide a reproducible test case which clearly demonstrates the bug and allows a reproduction on the client system or on a CYBERTEC system having similar features.
- Bug fixes for Solaris and AIX are not guaranteed but happen on a "best effort" basis.

Note that in many cases problems have been caused by bugs inside the compiler provided by the operating system. In this case we do not guarantee that a bug fix can be provided.

The same is true for broken operating system libraries. In this case fixing bugs is also to be seen as a "best effort" agreement.

In case of bug fixes new packages will be issued.



WHY CYBERTEC SUPPORT

Welcome to the world of CYBERTEC, a leading provider of professional services for PostgreSQL. CYBERTEC has been helping companies like yours worldwide, since the year 2000, to make your database management as easy, uncomplicated, cost-effective and innovative as possible. With 7 locations and several Fortune 500 customers, CYBERTEC has become one of the world market leaders in the field of PostgreSQL and serves customers in over 30 countries worldwide.

Our international team of experts are available to quickly and reliably help you handle a full range of technical issues 24/7, while assisting you in generating sustainable added value from your data.

If you need further information

For more information, or if you have any questions about our range of products, tools and services, contact us. There's no obligation - send us an inquiry via email or give us a call.

Contact

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