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# Autonomous Database ECPU FAQ

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## What is an ECPU?

ECPU's are a new billing metric for Autonomous Data Warehouse and Autonomous Transaction Processing. An ECPU is based on the number of cores elastically allocated from the shared pool of Exadata database servers and storage servers.

## What is the difference between ECPU's and OCPU's?

An OCPU is defined as the equivalent of one physical core with hyper-threading enabled. In contrast, an ECPU is not explicitly defined in terms of an amount of physical hardware. By introducing ECPU's, Oracle is providing a durable pricing metric which is not tied to the exact make, model and clock speed of the underlying processor.

## What is the price of an ECPU?

The prices for ECPU's are (The price list can be found at <https://www.oracle.com/cloud/price-list/>):

- Autonomous Data Warehouse: \$0.25 per ECPU per hour
- Autonomous Transaction Processing: \$0.67 per ECPU per hour

Note that ECPU's are sold in multiples of two.

Additionally, Bring-You-Own-License pricing is available with ECPU's:

- Autonomous Data Warehouse: \$0.06 per ECPU per hour
- Autonomous Transaction Processing: \$0.1608 per ECPU per hour

(Up to 4 ECPU's may be activated for each supported Processor license of Oracle Database Enterprise Edition and up to 8 ECPU's for each supported Processor license of Oracle Database Standard Edition)

## Are ECPU's different between Autonomous Data Warehouse and Autonomous Transaction Processing?

Yes. ECPU's are service-specific metrics, so that an ADW ECPU may represent a different amount of computing power, memory and IO than an ATP ECPU.

## Why is Oracle introducing ECPU's?

With ECPU's Oracle is introducing its pricing model for the long-term future. ECPU's provide a consistent price metric independent of the underlying hardware. This avoids the possibility of complex pricing models in the future.

Note that ECPU's have also already been introduced for MySQL Heatwave on AWS, and other services may also offer ECPU's in the future.

## When are ECPU's available?

ECPU's are available starting on January 31, 2023.

On this date, ECPU's will be available for all tenants on Autonomous Database on Dedicated Exadata Infrastructure and Autonomous Database on Exadata Cloud@Customer Infrastructure.

For customers using Autonomous Database on Shared Exadata Infrastructure, ECPU's will be limited availability on January 31<sup>st</sup> and rolled out to all customers in the coming months. Any customer may request earlier access to ECPU's via a service request.

## What are the benefits of ECPU's?

At their introduction, ECPU's will provide similar or better price-performance than OCPU's for a given Autonomous Database workload. Over time, ECPU's will deliver continuous improvements in price-performance.

For Autonomous Data Warehouse, ECPU's provide the benefit of a lower entry price. The smallest Autonomous Data Warehouse configuration is \$0.50 per hour with ECPU's. ECPU's also provide finer-granularity pricing for Autonomous Data Warehouse since the increment for increasing the cpu configuration and/or auto-scaling is \$0.50.

Additionally, new features for Autonomous Database may only be available with ECPU's. For example, concurrent with the introduction of ECPU's, Oracle has lowered the price of storage for Autonomous Data Warehouses on Shared Infrastructure from \$118.40 to \$25.00 per TB-month – but this feature is only available for ECPU data warehouses.

## Should I use ECPU's as the billing metric for my new Autonomous Database?

Yes, ECPU's are recommended for new Autonomous Databases. On the shared platform, ECPU's are the default pricing metric during database provisioning. On the dedicated platform, ECPU's are the default pricing metric when creating a VM.

OCPU's are fully supported, and customers can choose to use OCPU's during provisioning of new database.

## Are OCPU's still available?

Yes, OCPU's are still available. Existing Autonomous Databases are not modified and will continue to use OCPU's.

ECPU's will be the default pricing metric for new Autonomous Databases, but customers can still choose to create their new databases using the OCPU pricing metric.

Over time, Oracle plans to deprecate the OCPU pricing model for Autonomous Databases. However, Oracle anticipates that OCPU's will be available for at least one year.

## Should I convert an existing OCPU-based database to an ECPU-based database?

The ability to convert a database from OCPU's to ECPU's will be available later in 2023. Customers can continue to use OCPU's and convert when once the built-in conversion feature is available.

Customers who want to use ECPU's earlier can clone an OCPU-based database to an ECPU-based database.

## How should I size my database using ECPU's?

For the conversion of an existing Autonomous Database using OCPU's to ECPU's, a customer can ensure the same or better performance by sizing their database based on costs. Two examples:

- A 4 OCPU ATP has a list price of \$5.36 per hour. An ATP system with costs would use 8 ECPU's (\$5.36 per hour).
- A 4 OCPU ADW has a list price of \$5.36 per hour. An ADW system with similar costs would use 20 ECPU's (\$5.00 per hour) or 22 ECPU's (\$5.50 per hour).

This is a conservative sizing approach to provide similar or better performance.

For a new database or for the migration of an existing Oracle Database to Autonomous Database, customers can work with their Oracle sales teams. If customers have previous experience with sizing an Autonomous Database based on OCPU's, then they can fully leverage their previous OCPU sizing estimate and convert to ECPU's on a cost basis as illustrated above.

## Do ECPU-based databases have different features or performance characteristics from OCPU-based databases?

The introduction of ECPU's is simply an additional pricing metric. Using an ECPU Autonomous Database is essentially identical to an OCPU Autonomous Database. Customers choose the number of ECPU's or OCPU's at provisioning time, and they can re-size their database at any time. Both ECPU's and OCPU's fully support auto-scaling (up to 3x of the base compute capacity), autonomous data guard, cloning, and all other core features. The billing policies for auto-scaling and Autonomous Data Guard are unchanged across ECPU's and OCPU's.

In the future, some new Autonomous Database features may be available only on ECPU's.

## So, seriously, what's the big picture here?

Oracle is introducing its long-term price metric with ECPU's to avoid pricing complexity as hardware systems change (please see price lists for other cloud vendors as examples of this complexity).

ECPU-based databases provide the same user-experience as OCPU-based databases, and conversion from OCPU's to ECPU's will be trivial once in-place conversion is available later in 2023.

Customers should plan to adopt ECPU's with confidence that they will get the same or better price-performance with no significant changes to their Autonomous Database experience.

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