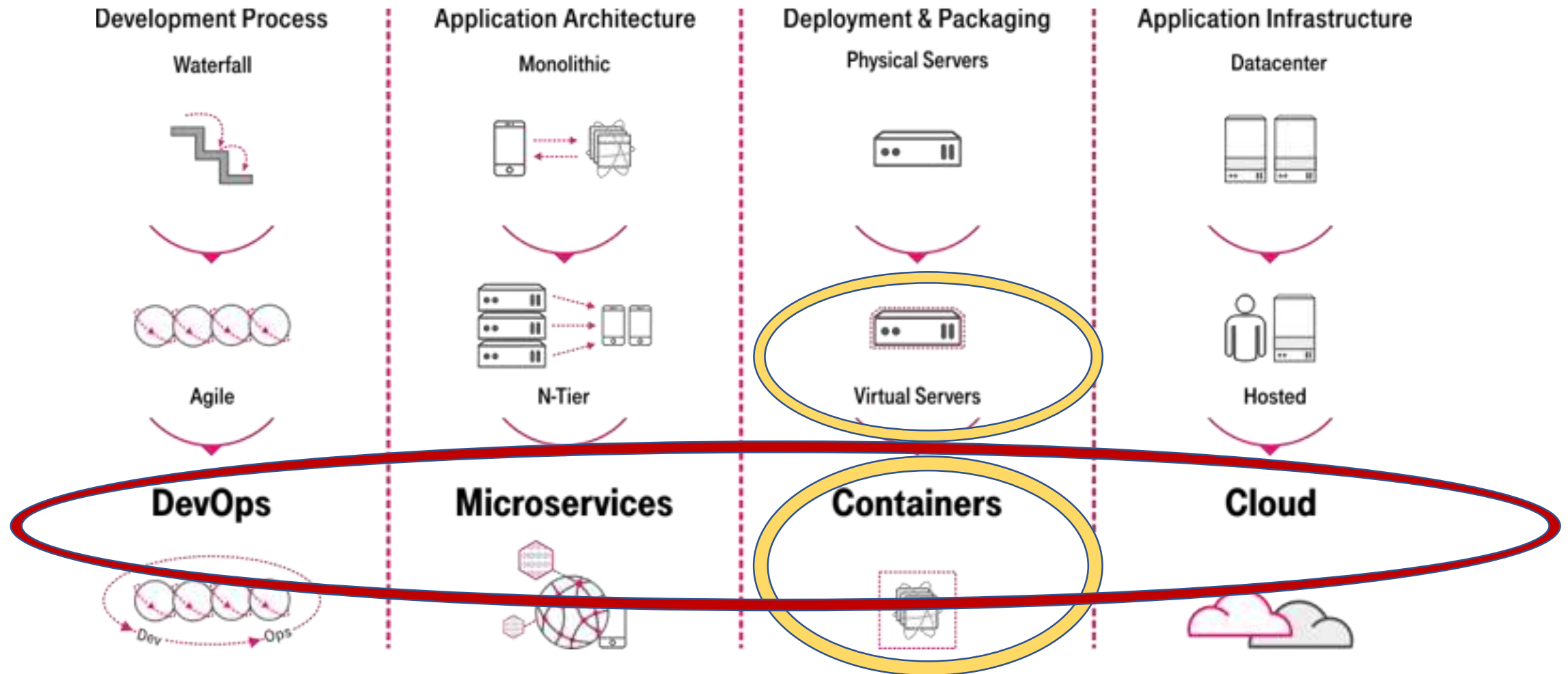Coherence mint elsődleges közbenső tároló
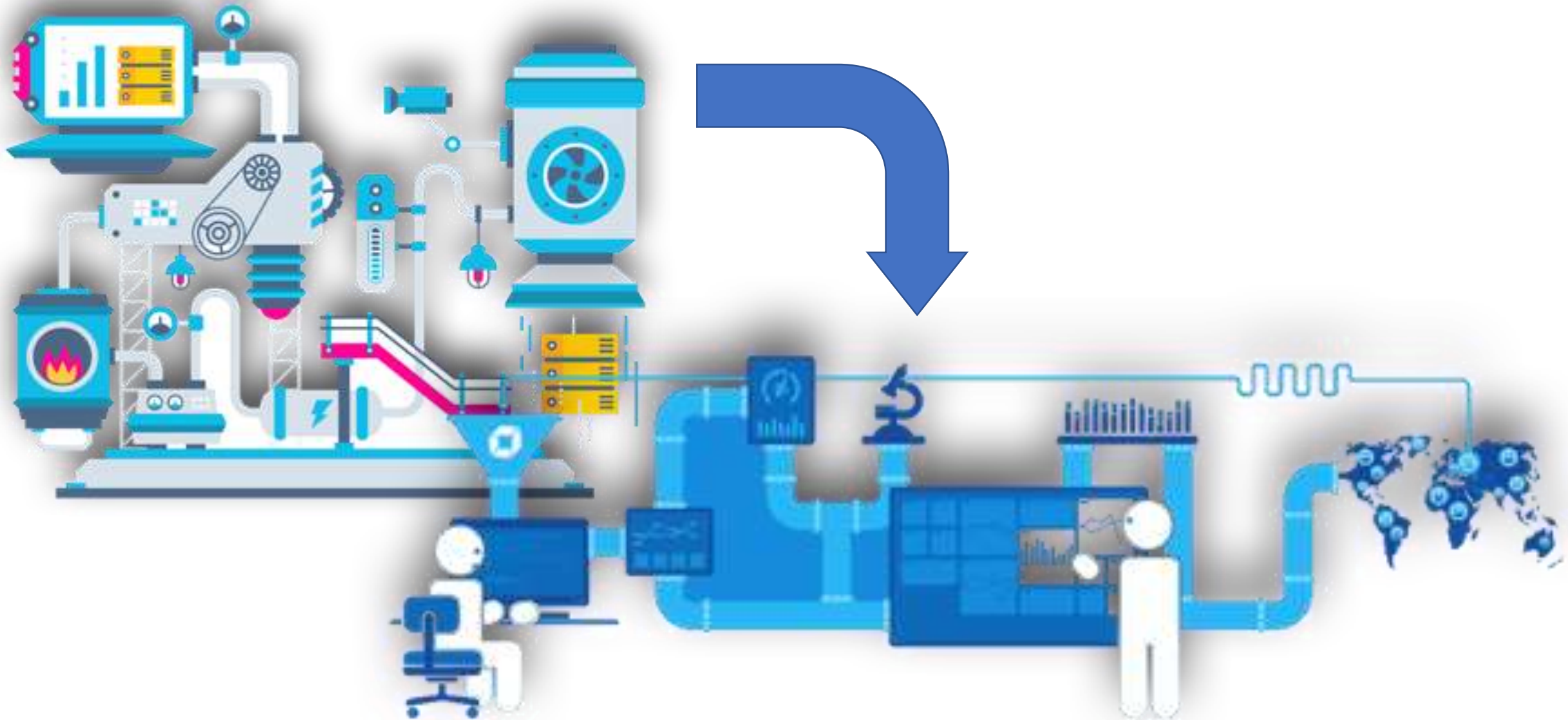
Előadó:
Kovács Csanád
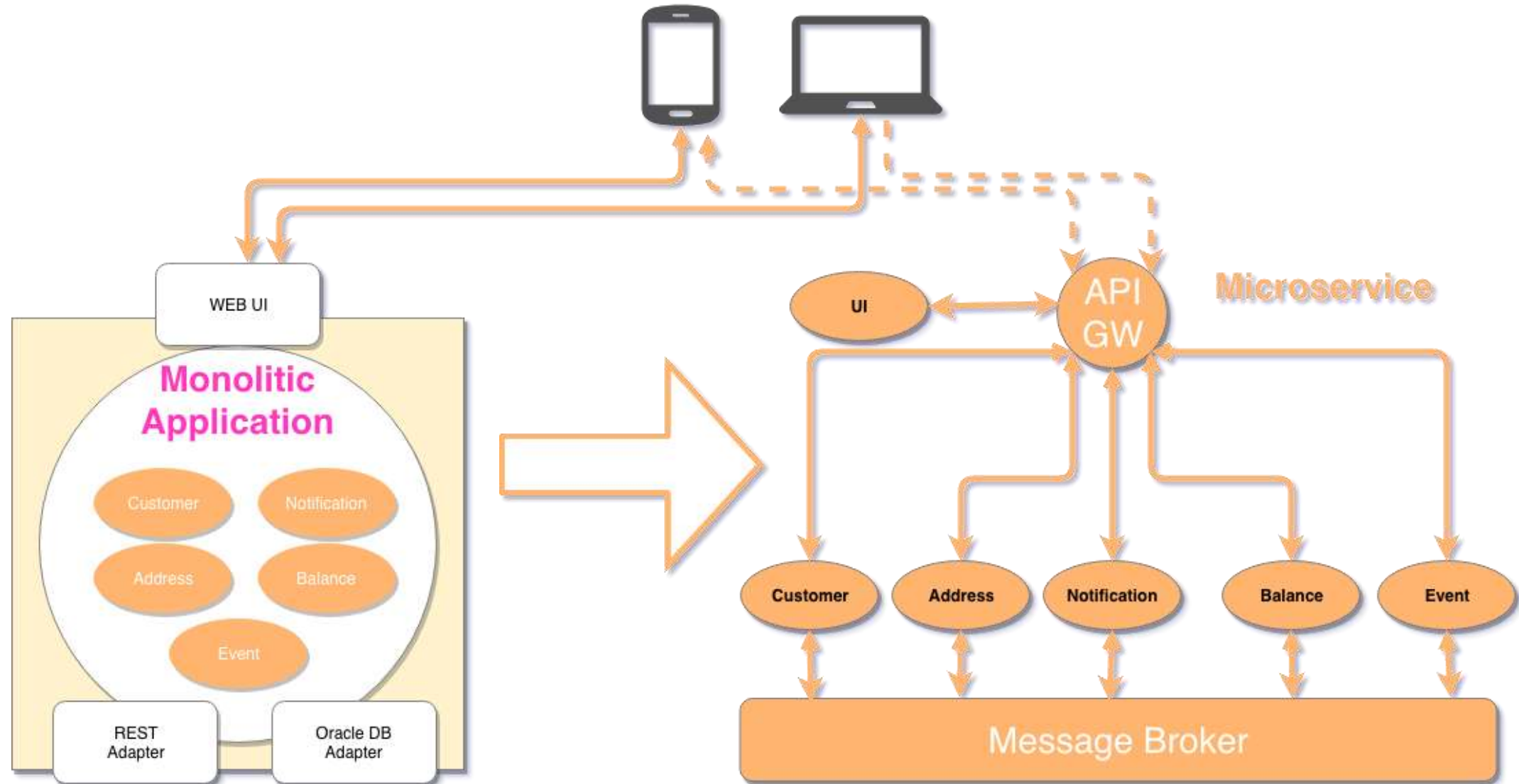
Evolúciós mérföldkövek...
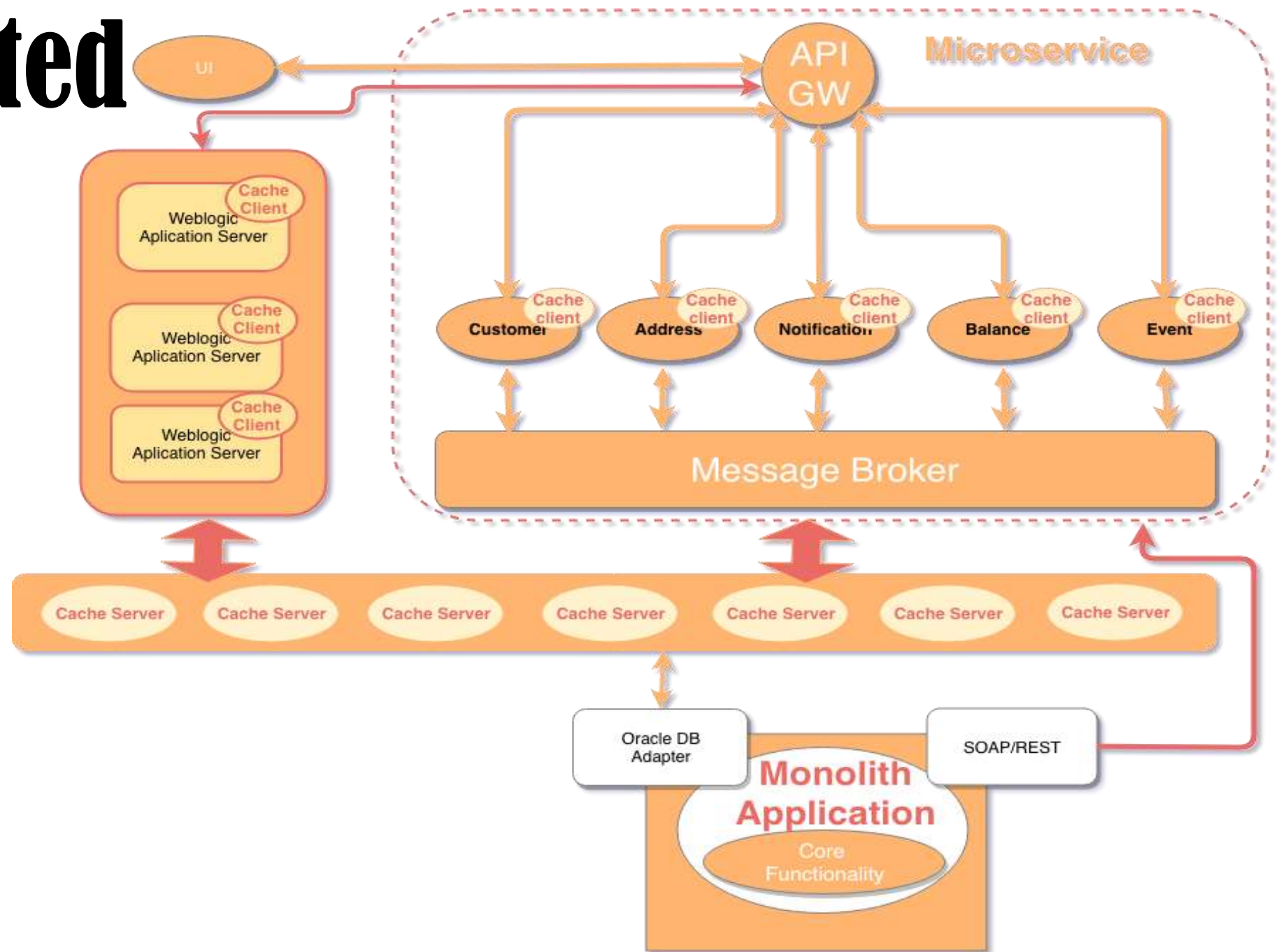
A mi küldetésünk…

Monolit alkalmazásból a Microservice felé...

Distributed Cache

Úton a gyorsaság felé...

Cache méret szabályozás

- PARTITIONED BACKING MAP
  - the partitioned backing map is your best option for very large caches. The following example demonstrates how you could configure a partitioned backing map that will allow you to store 1 TB of data in a 50-node cluster

```xml
<distributed-scheme>
<scheme-name>large-scheme</scheme-name>
<service-name>LargeCacheService</service-name>
<partition-count>20981</partition-count>
<backing-map-scheme>
<partitioned>true</partitioned>
<external-scheme>
<high-units>20</high-units>
<unit-calculator>BINARY</unit-calculator>
<unit-factor>1073741824</unit-factor>
<nio-memory-manager>
<initial-size>1MB</initial-size>
<maximum-size>50MB</maximum-size>
</nio-memory-manager>
</external-scheme>
</backing-map-scheme>
<backup-storage>
<type>off-heap</type>
<initial-size>1MB</initial-size>
<maximum-size>50MB</maximum-size>
</backup-storage>
<autostart>true</autostart>
</distributed-scheme>
```

  - We have configured partition-count to 20,981, which will allow us to store 1 TB of data in the cache while keeping the partition size down to 50 MB.
  - We have then used the partitioned element within the backing map scheme definition to let Coherence know that it should use the partitioned backing map implementation instead of the default one.
  - The external-scheme element is used to configure the maximum size of the backing map as a whole, as well as the storage for each partition. Each partition uses an NIO buffer with the initial size of 1 MB and a maximum size of 50 MB.
  - The backing map as a whole is limited to 20 GB using a combination of high-units, unit-calculator, and unit-factor values. Because we are storing serialized objects off-heap, we can use binary calculator to limit cache size in bytes. However, the high-units setting is internally represented by a 32-bit integer, so the highest value we could specify for it would be 2 GB.
  - In order allow for larger cache sizes while preserving backwards compatibility, Coherence engineers decided not to widen high-units to 64 bits. Instead, they introduced the unit-factor setting, which is nothing more than a multiplier for the high-units value. In the preceding example, the unit-factor is set to 1 GB, which in combination with the high-units setting of 20 limits cache size per node to 20 GB.
  - Finally, when using a partitioned backing map to support very large caches off-heap, we cannot use the default, on-heap backup storage. The backup storage is always managed per partition, so we had to configure it to use off-heap buffers of the same size as primary storage buffers.

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