



Software High Availability on IBM i

COMMON 2026



Agenda

- ▶ About Me
- ▶ The IBM i Database
- ▶ Journaling
- ▶ What is High Availability?
- ▶ Practical Use Cases
- ▶ Which HA Product Fits Your Needs Best?
- ▶ The Roundabout Problem



About the speaker

Katharina Karner

- ▶ Started at IBM in 2000
- ▶ Experience with the following HA solutions:
 - OMS/ODS
 - iTERA
 - iCluster
 - MIMIX
 - Quick-EDD
 - MAXAVA HA
 - BUS4i

VISION
SOLUTIONS

precisely

Rocket
software

precisely

precisely


MAXAVA
MAXIMUM AVAILABILITY

tsp



COMMON EUROPE ADVISORY COUNCIL



CEAC (Common 
Europe Advisory
Council)
Member



IBM i

CEAC (Common Europe Advisory Council)

<https://comeur.org/what-is-ceac/>

- ▶ Mission: dialogue with IBM on strategic and long-term issues
- ▶ Organisation: part of Common Europe, members are IT professionals with extensive IBM I experience
- ▶ Our work:
 - Monthly online meetings to discuss IBM ideas with IBM liaison, give updates about enhancements and roadmap presentations
 - Face to face meetings twice a year, usually follow on from the Common conferences. Key members from IBM also attend this event.
- ▶ Our motivation: dedication to IBM i as the membership is on a voluntary basis only.

CEAC / IBM i Customer Council Ideas Portal

<https://ibm-power-systems-cc.ideas.ibm.com/ideas/>



IBM Power Systems - Customer Council Ideas Portal

Q Search all ideas...

+ ADD A NEW IDEA

My ideas	0
My votes	3
My proxy votes	0
My subscriptions	0

▼ FILTER BY CATEGORY

Cloud Management Console	60
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AI with IBM i	7
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Core OS	129
Db2 for i	454
Db2 Mirror	3
Db2 Web Query	20
Documentation	11

All ideas

3

Always update current user in PSDS after profile swap.

VOTE ▼

Swapping user profiles [1] is a common technique for CGI programs and other service oriented programs to make sure the program runs under the right p

Guest 2 days ago in IBM i / Application Development 3 Not under consideration

11

Adding the option to specify a Sender address to the command SNDSMTPEMM

VOTE ▼

For years now IBM i lacking a command to specify the sender mail address in a simple manner. Yes there is an API but this is too complicated for the aver

Rudi Van Helvoirt 11 days ago in IBM i / Core OS 0 Submitted

1

trim (leading and trailing) blanks from input in HMC search fields

VOTE ▼

Currently the 'Partitions' or 'Systems' search field filters for an exact match in the HMC Web GUI.As a consequence leading or trailing blanks do matter, b

Guest 2 days ago in HMC 0 Submitted

2

Add a new category under IBM Navigator for i, with the ability to plug in user-defined SQL for result sets and charts, similar to way s

VOTE ▼

This idea would allow system admins to build up a list and provide useful site-specific, SQL inquiry/review capability for their users, via custom SQL queri

Guest 3 days ago in IBM i / Web Serving 0 Submitted

29

add CLI option to GUI-feature : "Schedule-management" jobs

VOTE ▼

setting up "Schedule-management" jobs is currently a GUI-only feature. (V11R1M1111) add a CLI functionality to this feature. and a clear logging/messag

Guest about 1 month ago in HMC 1 Submitted

95

Fixentral Downloads of Machine Code updates are limited to 25 per day, Automate request to download beyond the stated limit

CL-internal use

IBM i Data

Requirements for High Availability

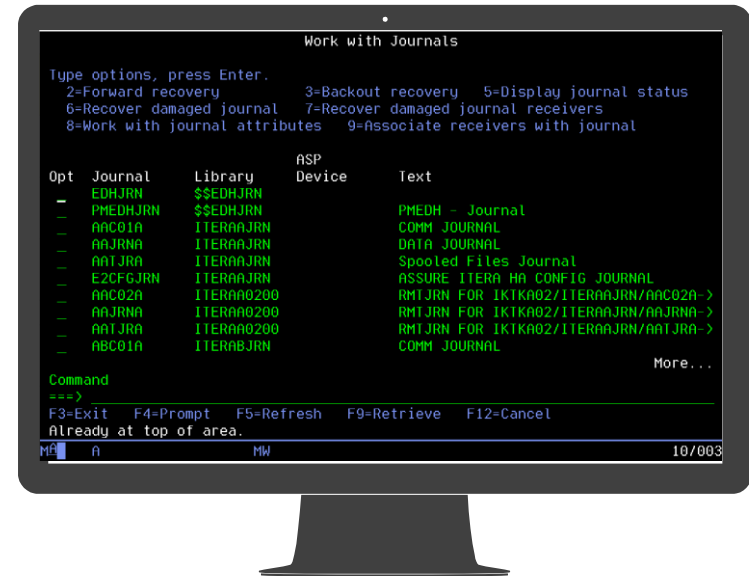
- ▶ Integrated Database
- ▶ IFS
- ▶ QDLS
- ▶ Program Objects
- ▶ System objects (e.g. user profiles, devices, etc.)
- ▶ OS & Licensed Programs are not replicated

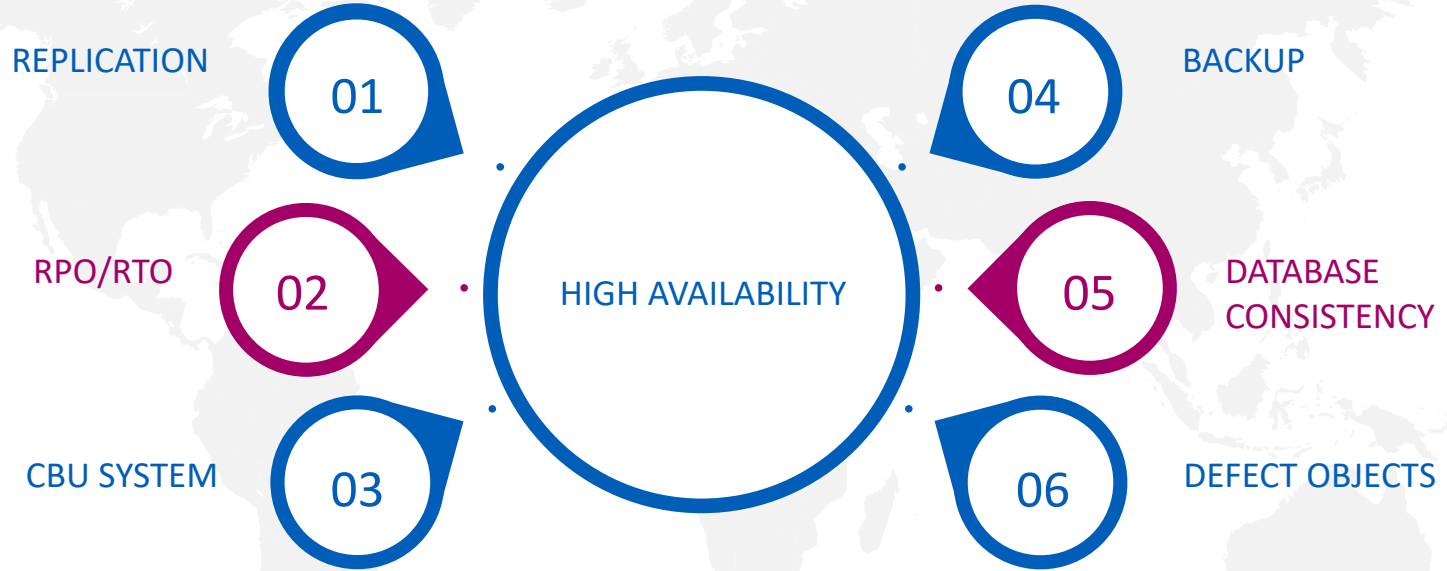


Journaling

Recording Changes to the Database

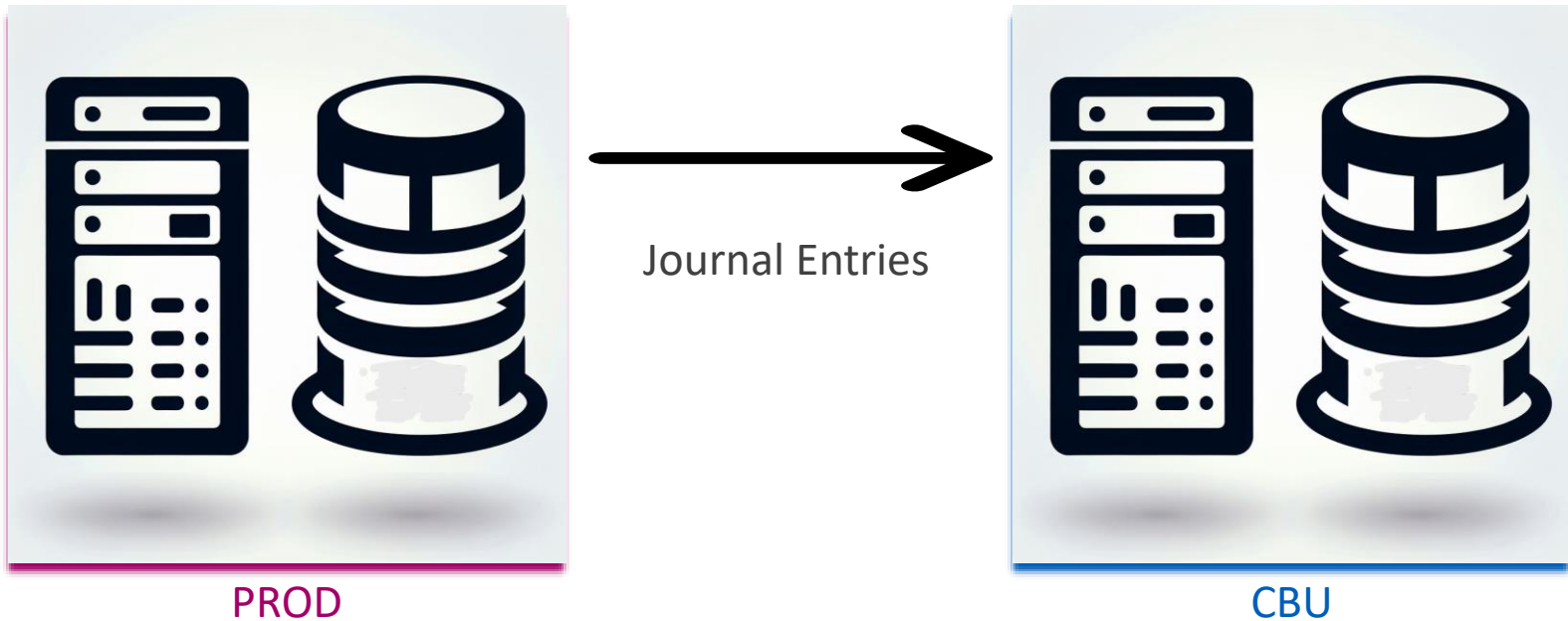
- ▶ Database Journals
- ▶ PFs, data areas, data queues, IFS
- ▶ Special case: QAUDJRN





Software Replication

1:1 Replication Setup

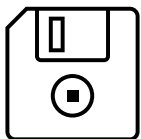


RPO and RTO

Key HA Metrics

RPO

Recovery Point Objective



Acceptable Data Loss?

Synchronous journaling = zero RPO

Asynchronous journaling = near-zero RPO

Data written to the journal while the transaction is still in memory

RTO

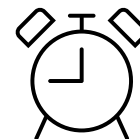
Recovery Time Objective

CBU-Server is active, no IPL required

Access paths validated

No Database recovery needed

Assessment of RTO-Timeframe



PROD and CBU-System Requirements

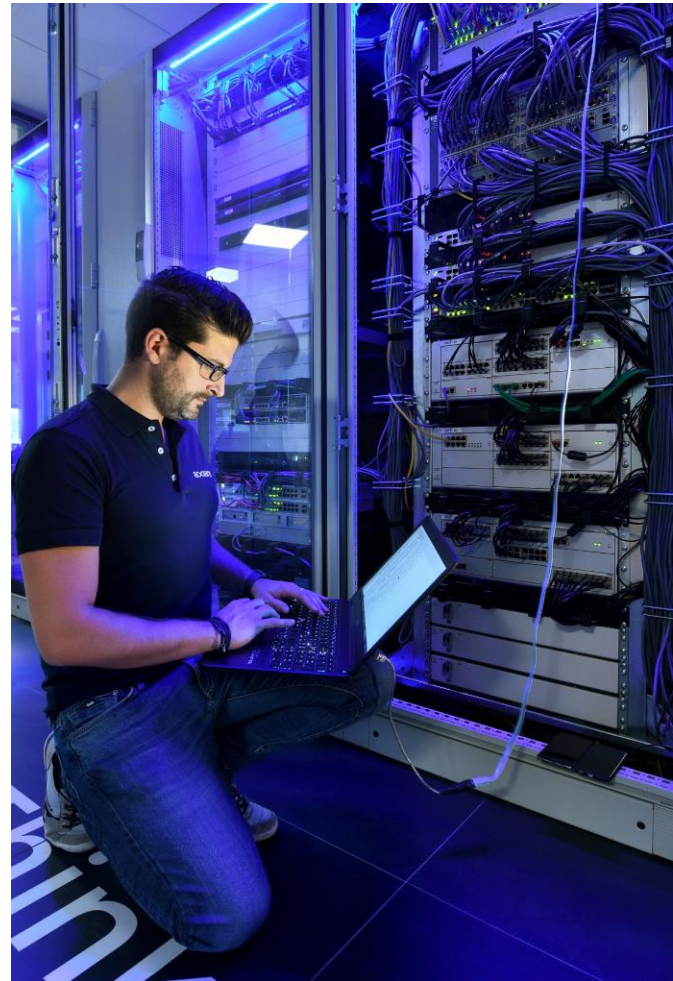
- ▶ Hardware & storage independent
- ▶ HA is not a backup solution
- ▶ SYSASP / ASP / iASP
- ▶ Systems can be located at different sites
- ▶ Up to 2 OS versions difference
- ▶ CBU is an active system



More Use Cases

Get More from your HA Solution

- ▶ Perform your backups on CBU
- ▶ Run reports on CBU
- ▶ Test environments either on CBU or copy of data
- ▶ Upgrade your OS with testing options
- ▶ Upgrade your applications with testing
- ▶ Migrate servers with minimal downtime



Advantages

Advantages vs. Other Technologies

- ▶ Journaling is independent of memory
- ▶ Object validation (e.g. dependencies are checked)
- ▶ Selective exclusion is possible
- ▶ Access paths are included
- ▶ Multiple target systems are possible
- ▶ Flexible initial synchronization

Virtual Switch

Popular Option

- ▶ Test applications easily
- ▶ Roll back changes
- ▶ Validate application behavior in real conditions
- ▶ No maintenance window required
- ▶ Possible during daily operations

PROD



CBU

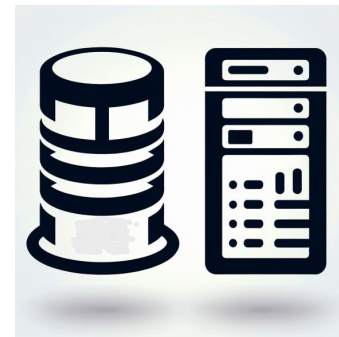


Planned Switch

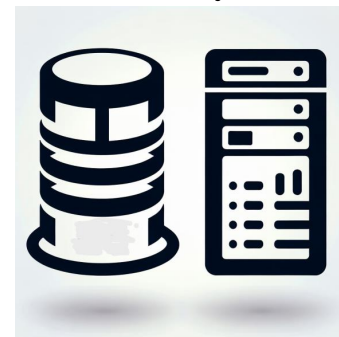
Downtime required

- ▶ Stop PROD applications
- ▶ Switch IP and DNS
- ▶ Start applications on CBU
- ▶ Test full environment (printers, exports, etc.)
- ▶ Use for maintenance, PTFs, OS upgrades

PROD



CBU



Unplanned Switch

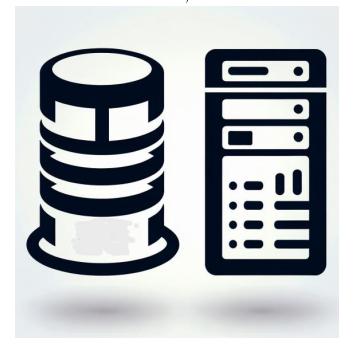
PROD failure

- ▶ Analyze system status
- ▶ Check if repair is possible (RTO)
- ▶ One-direction failover
- ▶ Automated recovery support:
 - Analyze transactions (RPO)
 - Analyze active jobs
 - Enable users
 - Start applications

PROD



CBU



Data Migration (3-Node)

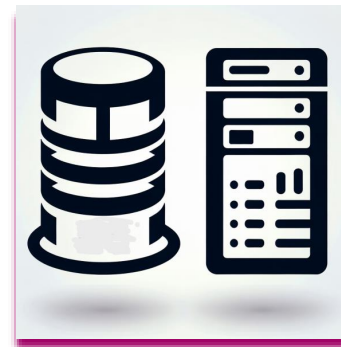
Use Case

- ▶ Move application to a new partition
- ▶ Users continue working
- ▶ Test new release in parallel

PROD



LIBA
LIBB



NEW LPAR



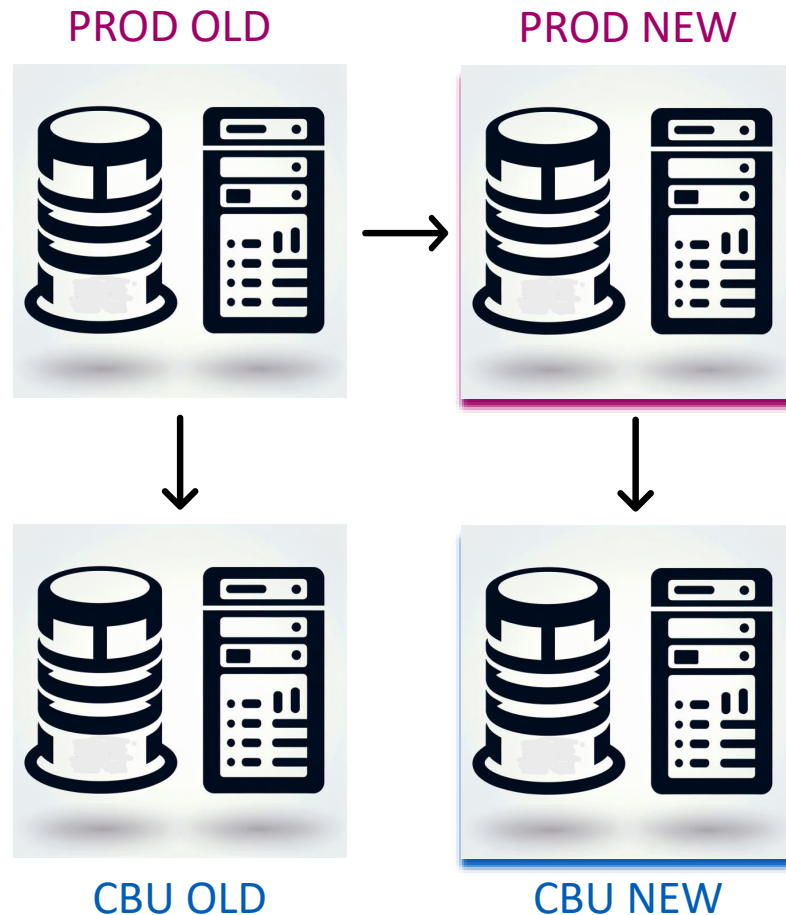
CBU



Server Migration (3-Node)

Minimal Downtime

- ▶ Connect new system via IP
- ▶ Migrate data via HA replication
- ▶ Ideal testing conditions
- ▶ Planned role swap for go-live

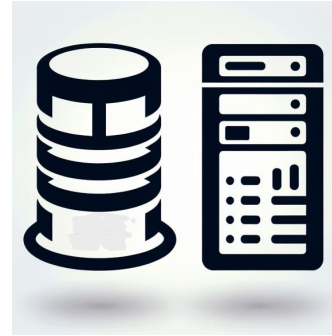


Migration to Cloud or Datacenter

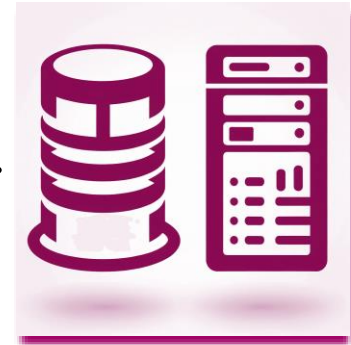
Minimal Downtime

- ▶ Hardware independent
- ▶ Example: limited or no access to server room
- ▶ Move workloads to cloud or DC

PROD ON PREM



PROD CLOUD



CBU ON PREM



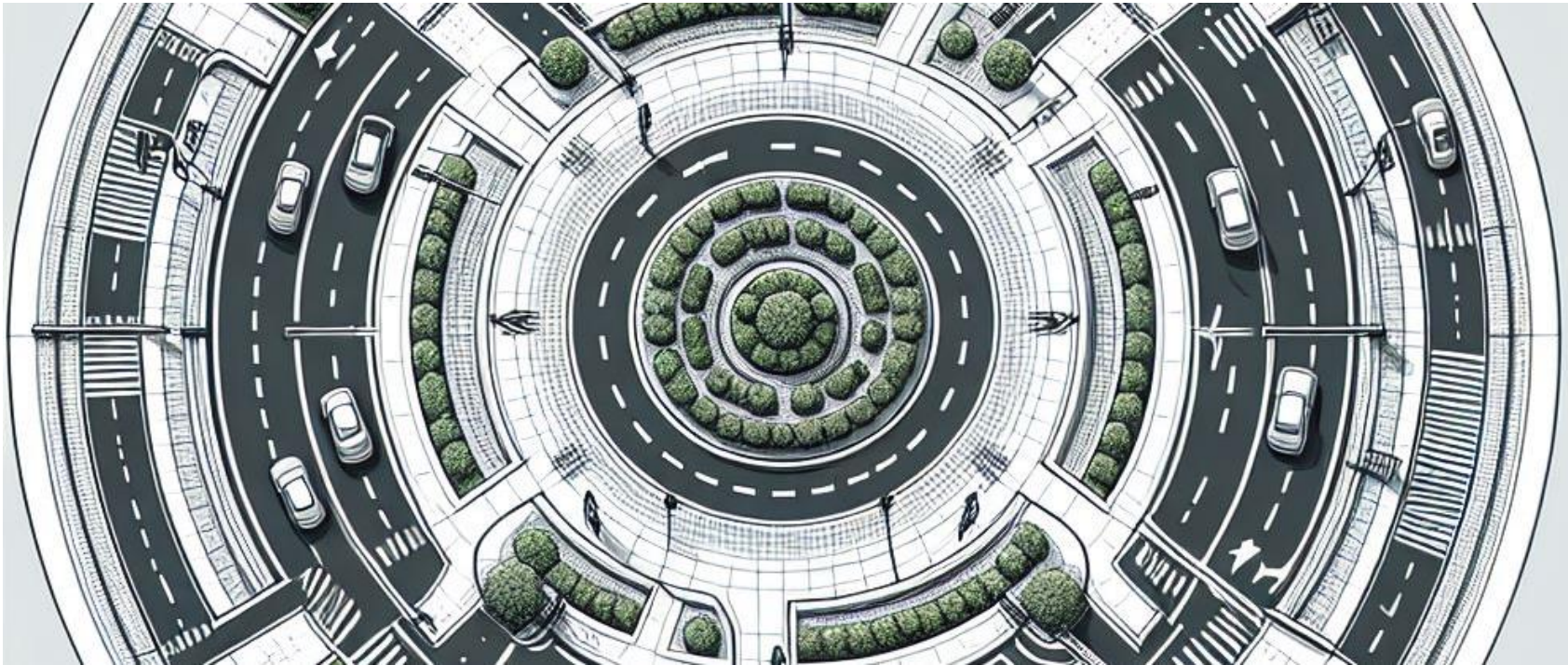
CBU CLOUD

Which HA Product is the Best?

Or do the differences really matter?



The Roundabout Problem





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