



RAPIDI REPLICATOR

REPLICATE DATA BETWEEN MULTIPLE MICROSOFT DYNAMICS 365
BUSINESS CENTRAL DATABASES

**Bring your systems in line with a robust
and secure data replication solution.**

Gain access to the right data at the right time
to make the right decisions.

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INTRODUCTION

This ebook is about **replicating data between different databases/instances of Microsoft Dynamics 365 Business Central**. It highlights numerous different real-life cases where companies and large organizations are using *Rapidi* products to remove the stress of running distributed systems. Throughout this ebook, you will learn **how easy it is to set up a robust and secure data replication** in just a few days to bring your systems in line and working for – rather than against – you. If you want to replicate data between different applications e.g. between Microsoft Dynamics 365 Business Central and a CRM system, you should instead use the RapidiOnline data integration platform that allows you to make broader integrations.



1 | WHO IS RAPIDI?

Stressed about starting a data replication project? Unsure what it involves and where to start? At *Rapidi*, **we understand how important your customer data and operational efficiency** are to you. We also know the true value synchronization and replication of different databases offers your business.

Data replication doesn't have to be confusing or complicated. It can be simple and stress-free. At *Rapidi*, we are your go-to data integration and replication experts with over 20 years of experience and in-depth knowledge about Microsoft Dynamics. Our data replication solution, the Rapidi Replicator, does not only support Microsoft Dynamics 365 Business Central but also Microsoft Dynamics AX and NAV all the way back to the NAVISION 3.56 version released in 1989.

” *The Rapidi Replicator is a very flexible solution that can easily be extended to our specific needs. Working with the configuration interface has made it easier to gain access to the needed data quickly without having to involve an IT consultant.*”

Zulekha Haywood, Revenue Forecast Manager, IMAN Cosmetics

We built our first *Replicator* back in 1989 and since then we have extended and redesigned the solution's technology to be as **fast, flexible, robust and secure** as possible. Through much research and learnings from real life implementations, we have discovered there's a number of key components in a great data replication solution:

- 1.** Powerful master data management and process automation
- 2.** quickly **identify the right data**
- 3.** **distribute the data** via whatever communication line or connection is available
- 4.** **pack and compress** the data so it's exchanged at an optimal rate
- 5.** **be secure** so there's no risk posed to your data from outside sources
- 6.** **quickly choose which data** to replicate – identical tables can be mapped by a single click
- 7.** enable **full control** of how data is shared
- 8.** **be flexible** to avoid expensive changes of data integration technology
- 9.** allow you to **easily track and fix** data or connection errors
- 10.** be **simple to maintain**
- 11.** give you **data you can trust**
- 12.** **increase your business intelligence** and operational efficiency

Our product, *Rapidi Replicator* does all of this. But as a company, we like to push ourselves further so we have **perfected our blend of human and technical skills** to provide our customers with an unrivalled committed, caring and personal customer service experience. We believe these things are just as important as the technology.



2 | THE REPLICATION CHALLENGE

In today's fast-paced business climate, your company needs to respond to events as they happen. You need agility and visibility into all of your business processes to ensure they are optimized for peak performance. Basing decisions on data that is even just a few hours old can cost your company revenue and customers. You need access to the **right data at the right time to make the right decision to remain competitive** in today's highly volatile climate.

Current information architectures lack standardized integration and replication tools. Integrating data across a diverse IT landscape using disparate tools adds an unnecessary layer of complexity.

Replicated data gives you a central overview of your business so you can make more informed decisions. The *Rapidi Replicator* provides this overview. It is a highly scalable and reliable tool to synchronize data between different databases. It offers a near real-time transaction replication that is easy to configure and even simpler to maintain. It also doesn't disrupt the performance of operational systems, nor the upgrade path. It enables organizations to access the most current data irrespective of the complexity and diversity of their IT landscape.

There are **many benefits** when utilizing the *Rapidi Replicator*:

1. Integrate as many databases as you need, within any logical structure
2. Secure connections via the *RapidiConnector for on premise and privately hosted deployments*
3. Integrated scheduler to manage the integration flow
4. Error handling and notification
5. No programming is required
6. Handling of specific Microsoft Dynamics formats (e.g. dates)
7. Replication between different versions of Microsoft Dynamics and the supporting database
8. Functionality to easily reuse a configuration for other integration points (e.g. setting up integration with a second company)

3 | THE RAPIDI REPLICATOR

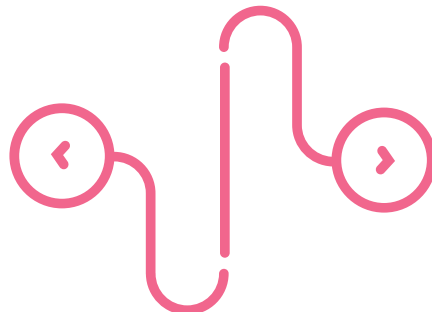
The *Replicator* was originally built for replication between local Microsoft Dynamics databases. But in 2008, we updated it to ensure the platform was more generic and supported many different systems both on premise, privately hosted and in the cloud. It also works across different versions, so it can handle organizations with different versions in different countries or sites.

The *Replicator* is the perfect solution for companies that need to handle distributed Microsoft Dynamics installations with local Microsoft Dynamics databases at foreign subsidiaries or on laptops. **It is a trusted solution used by customers all over the global** to replicate data between such systems.

The *Replicator* is fully scalable. It can replicate a system with just a few databases or a larger one with several hundred databases and parallel processes – all in a timely manner.

Key features of the Rapidi Replicator

- Flexible and cost-effective solution easily adapted to your specific needs
- Easy to set up
- No need to set up a VPN connection
- Easy to monitor and maintain, as the configuration is done online
- Monitor your data replication from anywhere at any time
- Access your Microsoft Dynamics 365 Business Central data 24/7
- No need to develop expensive extensions
- Automatic data replication between multiple Microsoft Dynamics databases
- Continue working and selling even if your network is down and replicate later
- Also available as a “hybrid” version so you can replicate your data locally, but configure the transfers online
- Read and write data via Microsoft Dynamics 365 Business Central OdataV4
- Possibility of replicating data with two Microsoft Dynamics 365 Business Central systems running parallel while upgrading



HOW THE RAPIDI REPLICATOR WORKS

The *Rapidi Replicator* can be deployed **as a cloud solution or as a hybrid solution** without any code changes to Microsoft Dynamics. In the hybrid setup, the engine that runs the data transfer can be installed on your own servers so all your data is kept within your own network. The cloud interface is used to generate new configurations to be deployed in your solution.

To support local or privately hosted installations, the *Rapidi Replicator* runs with a unique technology called the *RapidiConnector*. The *RapidiConnector* resides in your on premise network (or hosting center) connecting outbound to the central *Rapidi Replicator* on *RapidiOnline* and enables secure and optimized two-way communication between your legacy systems. This unique protocol ensures all data is compressed and securely transferred between the different Microsoft Dynamics databases.

ADVANTAGES OF THE USING THE RAPIDICONNECTOR IN CONJUNCTION WITH THE RAPIDI REPLICATOR

- **quick & easy installation** saving you implementation costs
- automatic **packing, compression & SSL encryption** of data
- **no fixed IP addresses** are needed
- **no inbound connection** or need to open inbound ports (internal systems remain protected)

RapidiOnline

Generic data integration platform used to configure the *Rapidi Replicator*.

Rapidi Replicator

Solution to share and replicate data across multiple Microsoft Dynamics databases. The *Rapidi Replicator* is a part of the *RapidiOnline* integration platform. *RapidiOnline* can also be used for integration with other end points (solutions).

RapidiConnector

A small software component establishing a secure connection between the local or privately hosted database and *RapidiOnline*. It ensures data transfers are secure and executed optimally.

” **The implementation of the Rapidi Replicator resulted in more efficient work routines and better overview about our business. It liberated valuable resources as we could avoid duplicated data entry. This saves both time and money. We can just continue concentrating on our core business.**”

Lars Ruben Hansen, IT Executive, Rema 1000

3 | ACCESSING MICROSOFT DYNAMICS NAV & 365 BUSINESS CENTRAL DATA

Microsoft Dynamics has many different products in its suite so the way we access it varies from product to product. Here we talk about how to access Microsoft Dynamics NAV and Microsoft Dynamics 365 Business Central.

ACCESSING MICROSOFT DYNAMICS NAV

As Microsoft Dynamics NAV has evolved over time, there really isn't one single method that is best in terms of accessing it. As a result, **the Rapidi Replicator is flexible enough to support four different ways of accessing NAV.** We take advantage of the most appropriate one according to your company's specific needs.

HERE'S AN OUTLINE OF THE FOUR DIFFERENT WAYS:

1. Accessing Microsoft Dynamics NAV through Web Services

The first way to access Microsoft Dynamics NAV is via Web Services. Web Services is available in NAV version 2009 R2 and onwards and is a very stable successor to the NAS Server. You can expose (or publish) any Page object in Microsoft Dynamics NAV as a Web Service with some standard functionality.

Generally speaking, this means you only need to perform a few clicks to expose a page as a Web Service and our solution can then read, update, create or delete data in the corresponding object.

Recommended use: to create or update data in NAV when you need to run processes or services, for example, to generate numbers or copy data from other tables/objects when creating new customers or sales orders. Also, for reading data from NAV, use the C/Front based interface (for NAV 2009 or older) or the SQL based interface (for NAV2013 and later).

2. Accessing Microsoft Dynamics NAV through SQL Server (NAV 2013 and later)

Microsoft has removed the support for C/Front versions of Microsoft Dynamics NAV 2013 and later. Unfortunately, they've failed to replace it with another way of reading large amounts of data from NAV (there are some Web Services that do but they're not suited for larger amounts of data). *Rapidi* has instead developed a SQL based way access to NAV. It's based on our generic SQL Server support, but with some extra features to enable the normal naming of tables and fields in NAV so they can still be used in the *Rapidi Replicator*.

In the SQL database for NAV, the table names include the Company name and field names and some characters have been replaced by an underscore. Being able to use the standard NAV names means the upgrade process much easier – transfer specifications can be reused almost unchanged. This interface also directly supports the built in timestamp in NAV to only read data that has been changed since the last successful run (like for the C/Front interface).

Recommended use: use this interface with Dynamics NAV 2013 and later to read data from NAV and for updating simple fields in specific tables.

3. Accessing Microsoft Dynamics NAV through the Navision Application Server (NAS)

The third method we have to access older versions of Microsoft Dynamics NAV is through the Navision Application Server (or NAS for short). The NAS Server is like a classic NAV Client but without a user interface, so all business logic in NAV also runs in NAS (you can code any functionality in NAS). This offers a big advantage as you can leverage all the code already in NAV – including all your customizations. You can also be sure your data is checked and validated just as if a user was entering the same data.

Our NAS Support works from version 3.70 and comes with code units that integrate with the Customer, Item and Sales Order objects. These code units can be copied to support other objects in NAV.

On the technical side, our NAS support is done with a Microsoft Automation Server plugin to NAS that handles all the communication with our central server. It also converts the data directly to/from our internal binary format and to fields in NAV tables. This means a programmer working with the C/AL code that runs in NAS does not have to worry about data conversion or XML documents etc. The data transfers are controlled by the in-built *Rapidi Replicator* scheduler so all logic related to what runs is taken care of by the central *Rapidi Replicator* setup.

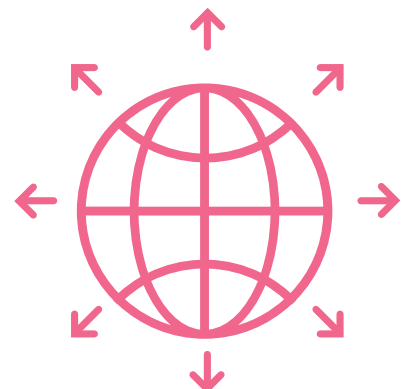
Recommended use: the NAS connector is best when you have NAV 2009R1 or earlier and you need to write complex objects to NAV that have a lot of business logic attached to them. For example, for creating Sales Orders in NAV. You also need an IT organization that can support keeping the NAS server running as it is not as stable and typically needs restarting once a week or so.

4. Accessing Microsoft Dynamics NAV through C/Front

The last way of accessing Microsoft Dynamics NAV is through an interface called C/Front. C/Front is a database level interface to Microsoft Dynamics NAV. It is supported by both the native NAV database server and MS-SQL based installations.

The C/Front interface is supported in all NAV versions up to and including Microsoft Dynamics NAV 2009R2 (Microsoft Dynamics NAV 2013 and later are not supported). It uses the same interface as the Classic NAV Client to access NAV data, so it is rock solid and very fast. It is the Microsoft recommended way of accessing data in the NAV database and all calculated fields and filters (Flow Fields/Filters) are supported in C/Front (Microsoft does not recommend you directly access to the MS-SQL database).

Recommended use: always use the C/Front interface to read data from Microsoft Dynamics NAV as this is by far the fastest way as it can read huge amounts of records in a very short time. To further speed up the process, we also have in built support for only reading data that has changed since last run using a timestamp. Also use this interface when it comes to writing or updating records to NAV where there is no or very little business logic attached to the tables to be written in NAV.



ACCESSING MICROSOFT DYNAMICS 365 BUSINESS CENTRAL

When accessing Microsoft Dynamics 365 Business Central, we use OdataV4 for both reading and writing data. When Microsoft Dynamics 365 Business Central is deployed in the SAAS version, we access it directly. When it is installed on premise or privately hosted, we utilize the RapidiConnector as described above.



5 | REPLICATION SCENARIOS

Data replication offers your company many advantages. It can be used to keep multiple servers in sync and to synchronize data between a server and a laptop or tablet with a single user. All this brings you efficiency gains and an increased bottom line.

The *Rapidi Replicator* can handle multiple needs, whether your business has simple or complex work processes. Should you have extra requirements – such as exchanging data with other systems – your *Replicator* can easily be transformed to our generic data integration platform, *RapidiOnline*. Both systems run on the same technology so you can quickly and cost-effectively manage all your data integrations and replications on one platform.

Here are some example scenarios where our solution the *Rapidi Replicator* can be used to solve specific data replication needs:

SCENARIO 1

FIELD REPRESENTATIVE (EG TRAVELLING SALESPERSON OR NGO STAFF)

Server to laptop integration

The **simplest data replication is between a single user laptop and a central multi user database.** For instance, giving a travelling salesperson or NGO representative working in areas with unstable, low, expensive or no internet connection access to Microsoft Dynamics NAV or 365 Business Central.

Say you have three travelling salespeople all with a local and its own database installed on their laptops. You also have a central server hosting Microsoft Dynamics. In this case, the *Rapidi Replicator* helps when:

- **your salespeople need to work offline with a local copy of the Microsoft Dynamics databases** on their laptops (to update master data, look at sales history, past customer relationships, order taking, writing proposals or when doing admin work such as processing expenses, payments etc.)
- **your salespeople are out in the field need but still need access** to their own local Microsoft Dynamics database on their laptops

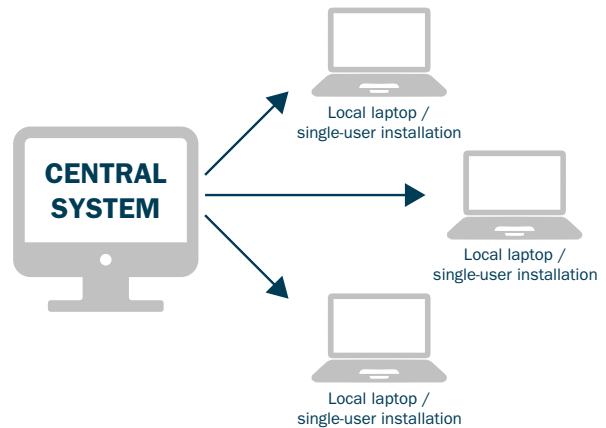
The *Replicator* allows you to make full use of your data in two primary directions:

- 1.** to **enable your salespeople to capture data locally off line and synchronize it** when they get back online, and
- 2.** to enable you **to push data to their laptops so they have the latest access** to accurate data (updated customer information, products, pricing, stock levels etc.)

When your salespeople get back online, **data is then replicated between the laptop and the central server.** Imagine the benefits this offers you, particularly if you have multiple field representatives. They're all kept up to date with the latest information and transactions which means a better all-round service for your customers, not to mention the elimination of manual errors and double data entries into multiple systems.

Top gains for your business when using the Replicator:

- **Streamlines processes** through workflows which reduces costs & increases employee productivity
- **Eliminates tedious & expensive paper-based approvals**
- Gives **salespeople instant access** to critical financial information and **updated master data**
- **More time available for sales** as there's less devoted to manual, administrative tasks
- A **better overview of your business** from transactions to total sales with timely, accurate data
- **Only relevant information is automatically exchanged** between field offices and the headquarters
- **Eliminates double data** entries
- Data is **always up to date**
- Enables you to make **decisions based on more accurate, up-to-date information**



SCENARIO 2

MASTER DATA MANAGEMENT – MULTI NATIONAL SOLUTIONS

“ With the Rapidi Replicator, we now have full control over our data and we have the flexibility we need. We chose Rapidi because of their large experience with data integration and data replication and Microsoft Dynamics NAV.”

Kimberly Johnson, Finance Manager, IMAN Cosmetics

This scenario is all about **managing your master data if you are multi-national or multi-site company** (or both!), particularly if you have a central server at headquarters plus a number of local sites each with their own local Microsoft Dynamics server.

The *Replicator* helps when you have:

- Master data **you want to share consistently across your sites** e.g., customers, items, pricing, configuration settings
- Local Microsoft Dynamics databases to fulfill local statutory requirements
- Local **business needs that differ from those of your central organization** thus the need for a local solution
- Locations/companies abroad from where you cannot (due to low bandwidth) or will not (security matters) let the employees work directly on the headquarters' system
- Inter-company transactions based on several Accounts/Microsoft Dynamics databases

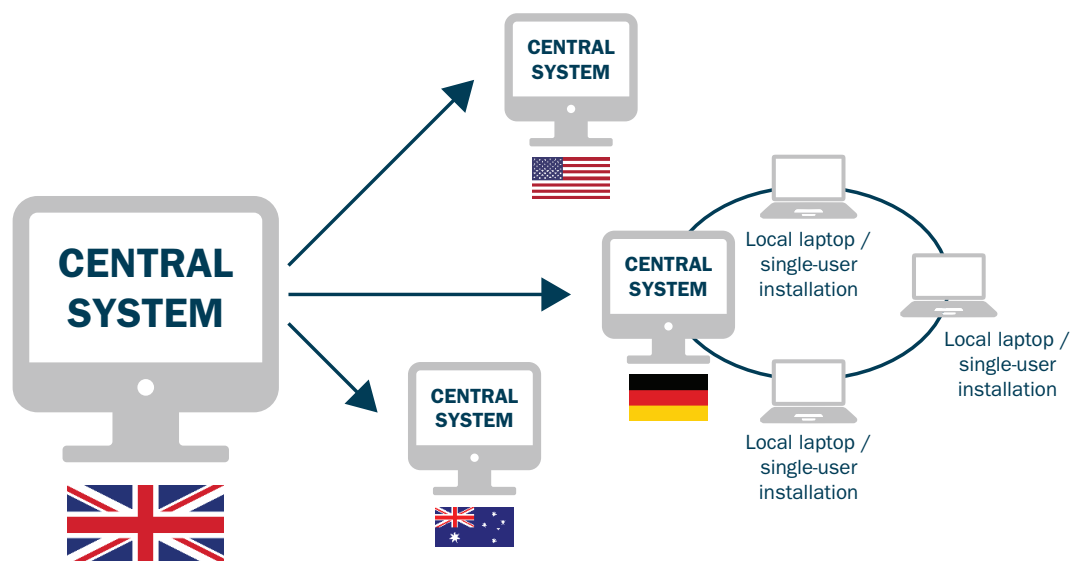
Because the Rapidi Replicator doesn't require any code changes in your Microsoft Dynamics 365 Business Central it's a perfect solution for multinational organizations that have any of these requirements. It does not conflict with localizations provided by Microsoft, CORE / KERNEL functionality provided by headquarters or customizations made locally. You can even share data between different versions of the software which means that your local solutions do not need to be operating on same version to work.

From time to time, companies merge or gain acquisitions and handling data transfers can be a real challenge security-wise. With the connectivity of the Rapidi Replicator, your domains do not need to be trusted for the integration to work.

Furthermore, even if the central system is down for maintenance, the local solutions can still run independently. When the central server is running again, then Rapidi Replicator will bring the systems back in sync.

Top gains for your business when using the Replicator:

- **Streamlines processes** through workflows which reduces costs & increases employee productivity
- **Eliminates tedious & expensive paper-based approvals**
- Gives **salespeople instant access** to critical financial information
- **More time available for sales** as there's less devoted to manual, administrative tasks
- A **better overview of your business** from transactions to total sales with timely, accurate data
- **Only relevant information is automatically exchanged** between field offices and the headquarters
- **Eliminates double data** entries
- Data is **always up to date**
- Enables you to make **decisions based on more accurate, up-to-date information**



SCENARIO 3 RETAIL SOLUTION

“ *The Replicator for Microsoft Dynamics made it possible to take advantage of the integration possibilities in our retail solution. The Replicator is the perfect solution for us as it provides data exchange between 270 stores and the headquarter in an easy, efficient and secure way.*”

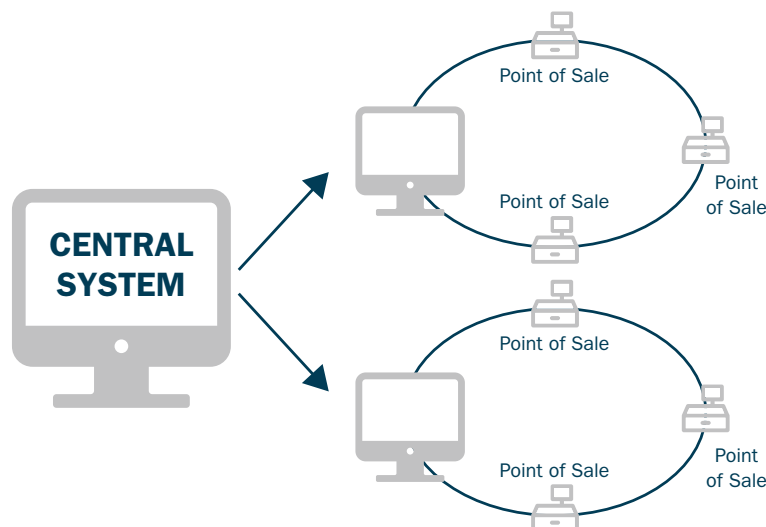
Lars Ruben Hasen, IT Executive, Rema1000

The *Rapidi Replicator* is ideal for use in the retail industry where it's key to have all product and pricing in the stores up-to-date from headquarters plus have all transactions synched back to head office each day too. Here's an example:

Let's say you are running a retail chain with one or more stores each with their own Microsoft Dynamics MS SQL-based POS system. You need to exchange data from these stores with a central Microsoft Dynamics located at headquarters.

Here's how the *Replicator* can help:

- it can handle your **entire data transfer** (from sales to product information) between any number of stores and the central server
- **sales data can be specifically targeted and replicated** direct from the stores back to headquarters
- **products, prices and purchase orders** can be replicated from headquarters back out to the stores
- **employee data can be transferred** from each department within the store to headquarters



Top gains for your business when using the Replicator:

- A **better overview of your business** from transactions to total sales with timely, accurate data
- **Streamlines sales processes** which reduces costs & increases employee productivity
- **Only relevant information** is automatically exchanged between stores and headquarters
- **Eliminates double data** entries
- Data is **always up to date**
- Enables you to **make decisions based on more accurate**, up-to-date information

SCENARIO 4

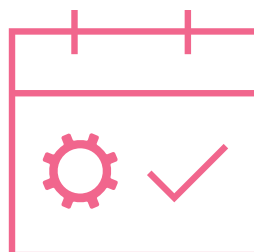
HOSPITALITY, FLEET AND SHIPPING SOLUTION

This scenario is quite similar to our retail example above but with a focus on the hospitality, fleet and shipping sectors.

Let's say you run a chain of hotels nationwide. You have a central server running Microsoft Dynamics at your headquarters while each of your hotels are running on their own instances. You can use the *Rapidi Replicator* to replicate data between your central headquarters and each individual hotel and their relevant local Microsoft Dynamics server.

Top gains for your business when using the Replicator:

- **Streamlines processes** through workflows which reduces costs & increases employee productivity
- **Spend more time on sales** and less on admin tasks & hassles
- A **better overview of your business** from transactions to total sales with timely, accurate data
- Gives salespeople **instant access to critical financial information**
- More time available for sales as there's **less devoted to manual, administrative tasks**
- Only **relevant information is automatically exchanged** between field offices and the headquarters
- **Eliminates double data** entries
- Data is **always up to date**
- Enables you to **make decisions based on more accurate**, up-to-date information
- **Continue to run different country-specific versions** of MS Dynamics in each hotel, fleet or ship
- Our unique protocol, the *RapidiConnector*, **automatically packs & compresses data** so you only need low bandwidth for data transfers – essential if you are on a ship & need to replicate using satellite based technology



6 | RAPIDI REPLICATOR EDITIONS

Our *Replicator* comes in three editions. First we have a **basic** (entry level) edition where you can replicate data between a central server and laptops/tablets (single user databases). We then have **standard** and **enterprise** levels for more advanced needs. Some more details about the different editions:

BASIC EDITION:

Replicate data between a central server and up to 10 laptops (single-user databases)

You have a Microsoft Dynamics installation at your office, and you have five representatives who need Microsoft access on their laptop. You buy a *Replicator Basic* and five laptop licenses (extra *single user database*). If you need more than 10 laptop licenses, you then upgrade to *Replicator Standard*.

STANDARD EDITION:

Replicate data between multiple databases (up to 10 databases, multi-user) and laptops (single-user databases).

You have three offices using Microsoft Dynamics with their own Microsoft Dynamics database. One office has eight field representatives with Microsoft Dynamics installed on their laptop. You buy a *Standard Replicator*, two additional *multi user database* (the first database is included in the *Replicator Standard* edition) and eight laptop licenses (extra *single user database*).

You also have a distribution company which is relevant for two of the three offices, so you license one extra company in two of the databases, thus two *extra companies* in total. You only pay for the databases and companies which require data replication.

ENTERPRISE EDITION:

Replicate data internationally and benefit from multiple replication engines

You have 20 offices around the globe using Microsoft Dynamics with their own Microsoft Dynamics database. Five of the offices each have 10 field representatives with Microsoft Dynamics installed on their laptop. In addition, you want to install the *Replicator* engine in your own network. You buy an *Enterprise Replicator*, 19 additional *multi user database* (the first database is included in the *Replicator Enterprise* edition) and 50 laptop licenses (extra *single user database*).

You also have a distribution company which is relevant for five of the 20 offices, therefore you license one extra company in five of the databases, thus five *extra companies* in total. You only pay for the databases and companies which require data replication.



Replicator edition overview

	BASIC Replicate data between one central server and up to 10 laptops (single-user databases)	STANDARD Replicate data multiple databases (up to 10 databases, multi-user) and laptops (single-user databases)	ENTERPRISE Replicate data internationally and benefit from multiple replication engines
Included in Replicator edition	First database and first company	First database and first company	First database and first company
Additional licensing	License fee	License fee	License fee
Extra database – single user (includes 1 company)	Available for a fee	Available for a fee	Available for a fee
Extra company	-	Available for a fee	Available for a fee
Extra database – multi user (Includes 1 company)	-	Available for a fee	Available for a fee
Extra replication engine (each)	-	-	Available for a fee
FEATURES			
Web account & dashboard	Yes	Yes	Yes
Scheduler	Yes	Yes	Yes
Web Replicator engine	Yes	Yes	Yes
RapidiConnector	Yes	Yes	Yes
Changes only	Yes	Yes	Yes
Mirror technology	Yes	Yes	Yes
Web Services		Yes	Yes
Configuration tool		Yes	Yes
Advanced formula toolbox		Yes	Yes
Triggered transfers			Yes
On-Premise Replication engine option			Yes
Additional Replication engine option			Yes
SUPPORT			
Support response time	2 working days	1 working day	6 hours
Support cases per year	5	10	25

ABOUT RAPIDIONLINE

Data integration doesn't have to be confusing or complicated. It can be simple and stress-free. At Rapidi, we are your go-to data integration experts with over 20 years of experience. We apply it to ensure your data integration project runs smoothly. Our product, *RapidiOnline* uses cutting-edge technology to provide data integration solutions that are fast yet flexible, simple, robust and secure. We have perfected our blend of human and technical skills to provide you with an unrivalled committed, caring and personal customer service experience. We believe these things are just as important as the technology we use so let us take the stress out of your data integration. Rapidi is a privately-owned company with offices in USA, Denmark, France, Macedonia & Australia.



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