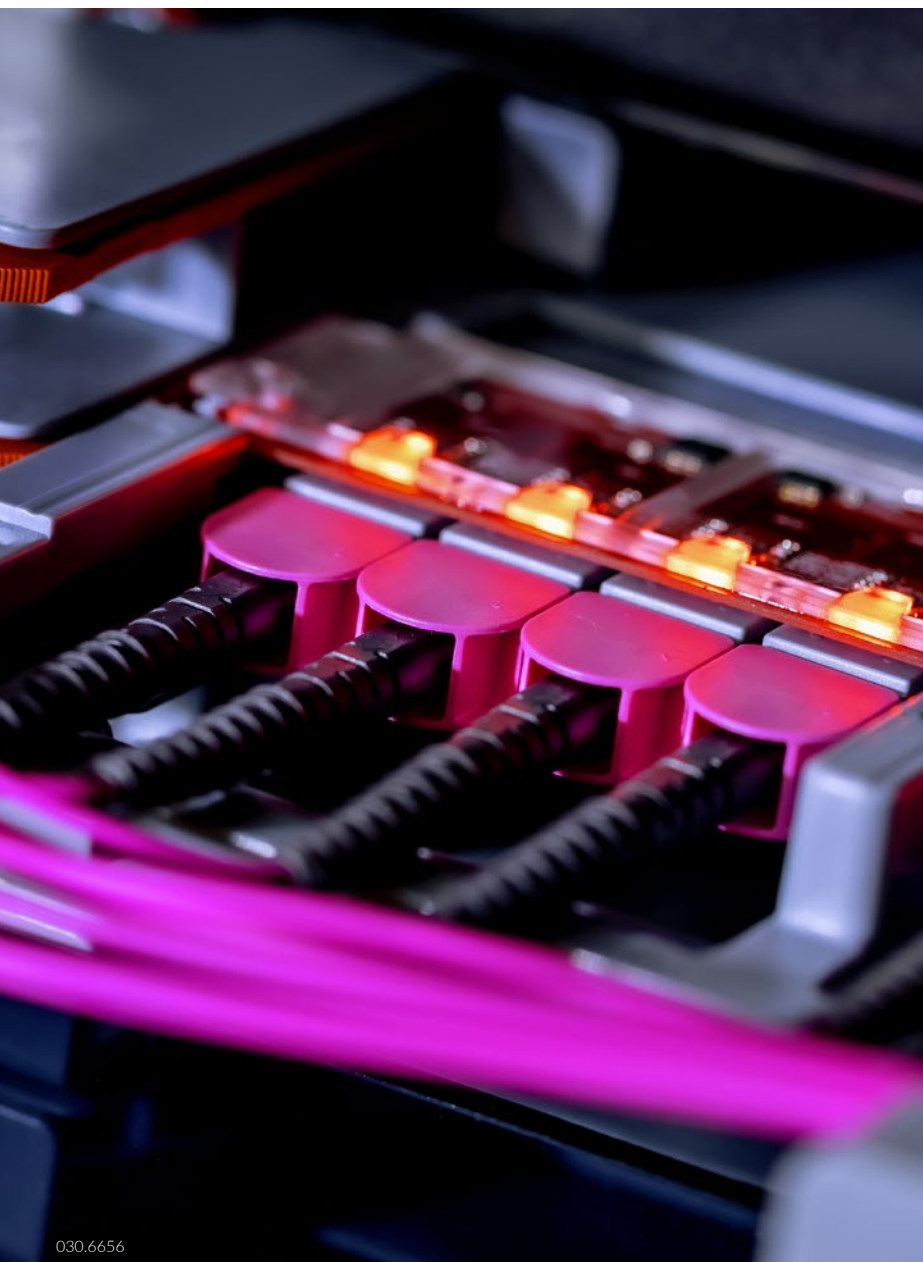






The Colocation Migration Handbook

7 steps for a successful
data center migration



030.6656

Table of Content

	Introduction	3
	Requirements and Planning	5
	Asset and Application Inventory	9
	Setting the Framework and Releasing an RFP	13
	Planning of New Infrastructure	17
	Pre-Migration	24
	Actual Migration	27
	Post-Migration	31
	Partnership	34

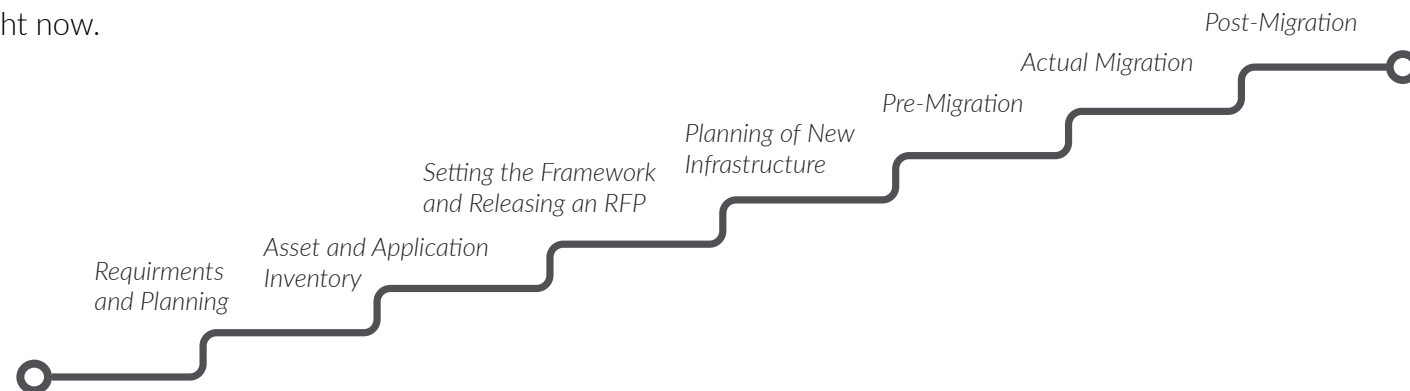
Introduction

How to migrate your data center into colocation

Outsourcing your data center services to a purpose-built data center offers greater efficiency, reliability and security. It also opens new opportunities to connect with an ecosystem of other relevant service providers and partners. If your business is looking to make the switch, it's important to get the data center migration right. This will make sure you avoid unplanned downtime and unnecessary costs. This seven-step guide to planning your move will help minimize your business disruption.

This Colocation Migration Handbook aims at helping you gain insight into the planning aspects, the physical infrastructure, design specifications and strategy which must happen before the effective migration into colocation data center. If these activities are not followed, negative results can be obtained for all the possible benefits of a colocation data center relocation.

As a dedicated partner and trusted advisor for networks all over the world, R&M knows how to deploy colocation data center infrastructure right and, unfortunately, we've seen several times what can happen when it is developed wrong. That's why we're putting this information in your hands right now.



Who should use this Handbook?

Anyone who is planning or participating in a data center migration can use this handbook. Examples of roles that can benefit include:

- CIO
- Data Center Managers
- IT Managers
- Facilities Managers

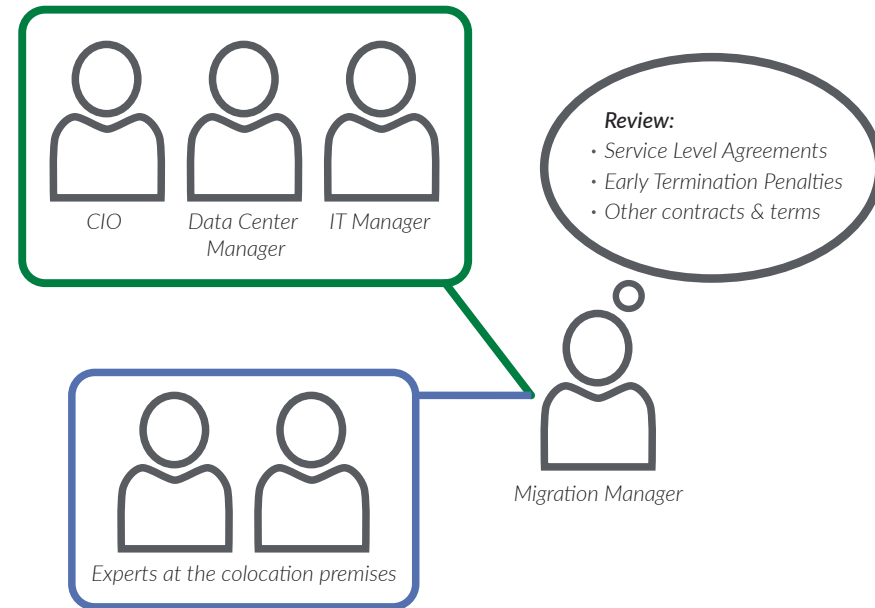
Requirements and Planning

Identify and engage all organizational stakeholders that may be impacted by the migration

The first aspect you need to remember when planning to migrate your data center into a colocation, is not rack space but a discussion about the company's IT requirements. In this discussion, the initiative should include all relevant players in the organization and not just the CIO, data center and IT managers. Review relevant service level agreements (SLAs) and other contracts for terms and conditions, such as early termination penalties, that could impact the migration budget and/or timeline.

As well as these internal stakeholders, successful colocation migration should also include a consultation of experts at the colocation premises. Shortcutting on this initial phase of the migration may lead to project changes at a later stage, adding cost and delaying the completion.

It is best practice to appoint a migration manager, who can operate through departments, monitor progress and ensure the success of the initiative. Together with the in-house team and the colo experts, they can work out a comprehensive analysis of the company's IT requirements.



Develop the IT requirement specifications

Once the migration project team is together, to start working out the requirements, the following set of topics needs to be reviewed.



Site location – The impact of the physical distance of the colo site on performance continues to decline. Nevertheless, there are still other aspects that should be considered:

- **Data protection**

This is a term that is understood as a right that every person and every organization is basically free to decide for themselves who should have access to which data and when. For example, in contrast to European regulations, there are no legal requirements in the USA regarding the retention period of collected personal data.

- **Latency**

Latency describes how long a data packet takes to pass from one point to another and should ideally be as close as possible to zero. Low latency is associated with a positive user experience (UX) and is a requirement for many upcoming IT landscapes such as smart cities. Generally, we can say that the physical distance is the main driver of latency.

- **Connectivity**

It is very important to check whether the colos evaluated offer the connectivity to the carriers of your choice

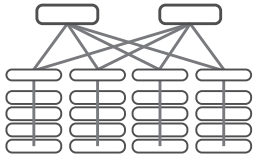
- **Energy policy**

Uncertainty about the future energy policy is already affecting the attractiveness of some countries as a business location. It is of paramount importance that the security of electricity supply always remains high.

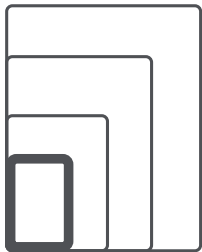
- **Disaster risk analysis**

For the appropriate future colocation site, the risk of natural disasters such as earthquakes or flooding etc. or man-made disasters such as violent attacks must be calculated.

Develop the IT requirement specifications



Network architecture – This covers how your data center is functionally built into the colocation. The criteria for access, bandwidth and latency will also contribute to a further discussion that has to be held on the site location.



Scale projections – The current size and capacity of a data center and their projections three to five-years into the future should be included. Data center standards often work with 25% capacity to grow. Similar considerations should be taken for a migration.



Technical specifications for Request for information (RFI) – The RFI should be rendered to the colo in question, based on current and potential scale of the data center and the network design needs of the data center. Any discrepancies between the request and the offering should be listed as items for further discussion with the colo.



Communication plan – An easily forgotten task is to develop a communication plan to keep all stakeholders apprised of progress, and to gain alignment on roles and responsibilities before, during, and after the project. A crucial part of this communication plan is to determine the «source of truth» documentation for all parties to work from, such as network drawings, facility diagrams, or databases.

Ready for the next step ➡ After having included all IT specifications across all key stakeholders, we are now able to move to the next phase and look deeper into the IT assets and applications to be migrated.

Asset and Application Inventory

How many devices do you have to migrate? And where are they now?

There are other crucial operational aspects that come into action, outside the strategic considerations of a company's IT demands. Fully understanding your data center needs will be the starting point, but having a clear picture of your IT asset and application inventory as well as of the network cabling plant is just as important. Even though migrating servers and other IT equipment takes the burden of maintaining physical infrastructure off your hands, those assets still represent a significant investment.

The inventory phase of data center migration prioritizes three concerns:

What are you migrating?

Devices and applications across the entire organization, across server cabinets or specific, individual assets?

What is the budget and timeline to migrate them?

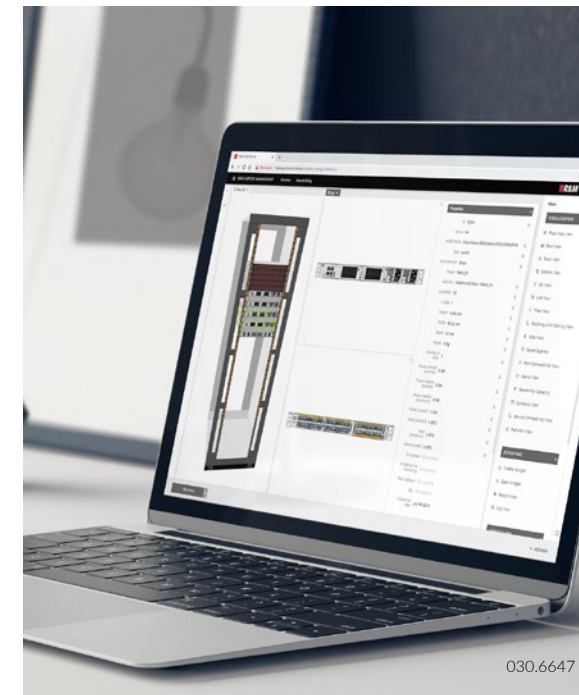
Account for both technical and business costs.

What will your success outcomes be once the migration is completed?

That is, how will all departments and stakeholders know you have successfully transferred your data center?



Determine first if the asset inventory will be completed manually or through a suitable DCIM software with asset management function such as R&M's inteliPhy net. This discovery phase must involve internal stakeholders from both the IT the infrastructure side. Fortunately, most of today's data centers implement rigorous asset management policies to provide IT and the organization's financial management with information about the location and condition of the equipment.



The actions every organization needs to manage inventory

Hardware inventory

Complete an inventory of the IT hardware, including servers, switches, storage, routers, rack PDUs, cabinets, patch panels and other equipment to determine what needs to be migrated and who owns it. At a minimum, make sure you have accurate data for the name, the manufacturer and model, the site, the cabinet and the U-position.

Network connectivity inventory

Knowing how your IT hardware is connected to each other is critical to effectively managing your data center. Without this information, you will not be able to make a precise allocation plan for the new colocation data center, let alone optimize your IT environment for the new site.

Applications inventory

The final aspect to cover is the software your organization uses. Complete an inventory of all applications running on the data center hardware.

Ensure data quality

Make sure that previously undocumented hardware, cabling, and applications are accurately inventoried and categorized – either for migration into a colo or for decommissioning. This documentation should be exhaustive. With this data center equipment list, it will be easier to plan and execute a relocation smoothly.

IT ecosystem

Once you have documented your IT infrastructure U-by-U and cabinet-by-cabinet, begin identifying how each of these components interacts with your larger network. Survey network dependencies, processes, technicalities and interrelated applications that require the existence of one another to function. Document these connections, too.

Mark everything

Put in place a system to clearly identify what item will be moved and, if you are going to migrate to several sites, where it will be moved. Think of using labels with colors or letters and numbers. Another possibility is to deploy an RFID asset tracking system at this stage.

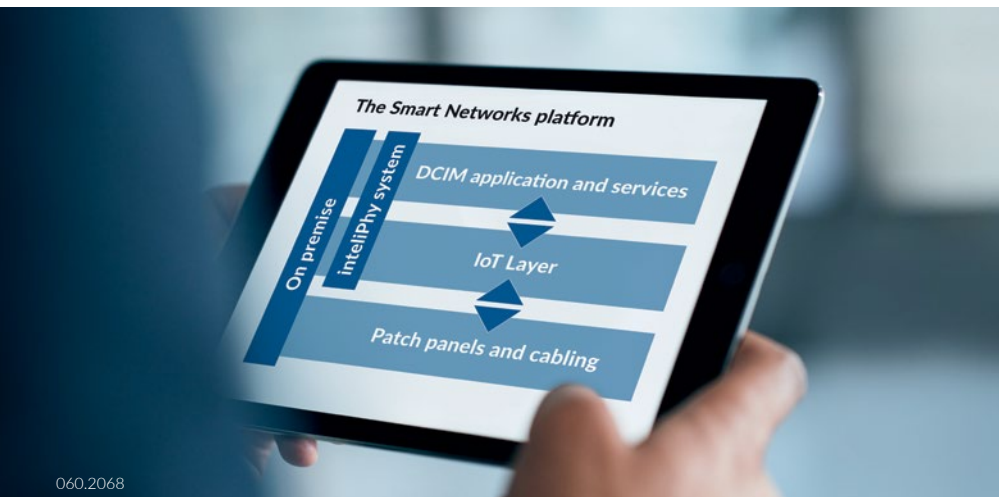


- ☐ Network connectivity inventory
- ☐ Applications inventory
- ☐ Ensure data quality
- ☐ IT ecosystem
- ☐ Mark everything
- ☐ ...

Invest into the automation of your colocation inventory

The most obvious benefit of IT asset tracking is the capability to determine the exact position of equipment at any given time. With RFID-based tracking, each piece of hardware is outfitted with a radio transmitter tag that provides the data in real time to your DCIM platform. That means finding the location of a particular asset is a simple matter of pulling up on a program like R&M's intelIPhy net software.

An announcement may be sent to your organization's stakeholders about changes each time the assets move. This will support remote hands personnel, because it always enables them to track the location of key assets and to react quickly to issues.



060.2068

Identify your deployment needs

Bringing the assets into the data center is one part of the migration. Once inside the building, you should have a detailed plan for how to deploy them to take advantage of the data center's connectivity options. The assessment of network requirements and the exploration of hybrid and multi-cloud deployment options is one of the most important phases of data center relocation.

Ready for the next step ➡ With a clear documentation of your IT asset, network connectivity, applications and ecosystem inventory, you are now able to move to the next phase and define a Request for Proposal (RFP) to the colocation data center.

Setting the Framework and Releasing an RFP

Equipped with all the information needed to define what you are looking for in potential colocation data centers

The next step is to create an RFP to be sent to the prospective colocation data centers once the framework and expectations of migration planning have been identified. An RFP is intended to encourage prospective providers to submit proposals for supplying the customer with data center location facilities. The RFP offers vendors the relevant solution's economical, performance, service and architectural demands. While the contract's financial conditions clearly are very significant, many other key factors need to be addressed, too.

The following list of priorities should be considered when designing an RFP to ensure that the requirements of the new data center today and in the future can be addressed, depending on the size and sensitive existence of the data center:

Location

Is the country safe with a stable government? Is it in reasonable proximity?

Tier Level

The classification levels of data centers represent a certification of design. A tier is another way of saying «level of service». A tier 1 data center can be little more than a powered warehouse and is not required to be very sophisticated. On the other end of the spectrum is a tier 4 data center. This tier gives its clients a guarantee of uptime, 2N cooling and redundant power and infrastructure. What is your desired tier level?

Space

Will your potential colocation data center easily have enough power and room for your existing infrastructure? How many racks will you be able to scale if needed? What are the possible rack sizes? What is the ceiling height? What is the height of the raised floor and what containment types are permitted?

Power density

Can the colocation facilitate your kW/rack demands? Is there a minimum power density that needs to be upheld?

Equipped with all the information needed to define what you are looking for in potential colocation data centers

Voltage

Are different voltage solutions available to serve 400, 480, 230, 120V, etc. requirements?

Redundant power

How many Uninterruptible Power Supply (UPS) systems does the colo have at its facility? What is the size in kW? What is the redundancy configuration (N, N+1, N+2, 3N/2, 2N and 2(N+1))? Does it offer dual power feeds from multiple power distribution units (PDUs) within each rack?

Carrier/cloud preferences

Does your preferred telecom carrier have a point of presence in the colo site? Is it possible to connect to carriers that are not in the facility? Does it have a direct connection to the internet exchange? Does it offer direct connection to your preferred hyperscale and local cloud services?

Internet/cloud connection bandwidth

How much internet and cloud bandwidth does the colo offer? And how much do you need? Keep in mind that bandwidth charges are typically the second largest aspect of the billing colocation services.

Bandwidth type

Does the colo offer a guaranteed, dedicated bandwidth service? Or is the bandwidth based on shared service?

Security and Compliance

Under what security and compliance conditions is the colocation certified (e.g. ISO 27001, GDPR, PCI-DSS, ISAE-3402, SSAE-16)? Does it meet all your company's requirements? Are the security personnel in-house or outsourced? What security systems are in place?



Equipped with all the information needed to define what you are looking for in potential colocation data centers

Standards

Although standards such as color codes of fiber optic pigtails or fire protection levels of products must be uniformly followed within a country, other criteria, such as fiber types or the routing of power, copper and fiber cables, do not apply. Not every colocation data center operator adheres to every relevant standard. Refer to the EN 50600-2 series and TIA-942-B standards to understand the level of compliance offered.

Remote hands

Does the colo offer 24/7 remote hands services? Does it cover cabling, rack & stack, troubleshooting and auditing? If not, can you get access for your own provider of remote hands?

24/7 building access

Do you have 24/7 access to the data center?

Response time

What is the response time for requests placed to personnel and vendors? Ask the colo to provide a sample agreement for review.

Ready for the next step ➡ After the RFP is done, it is time to move to the next steps in your migration journey that will be covered in the chapters that follow.



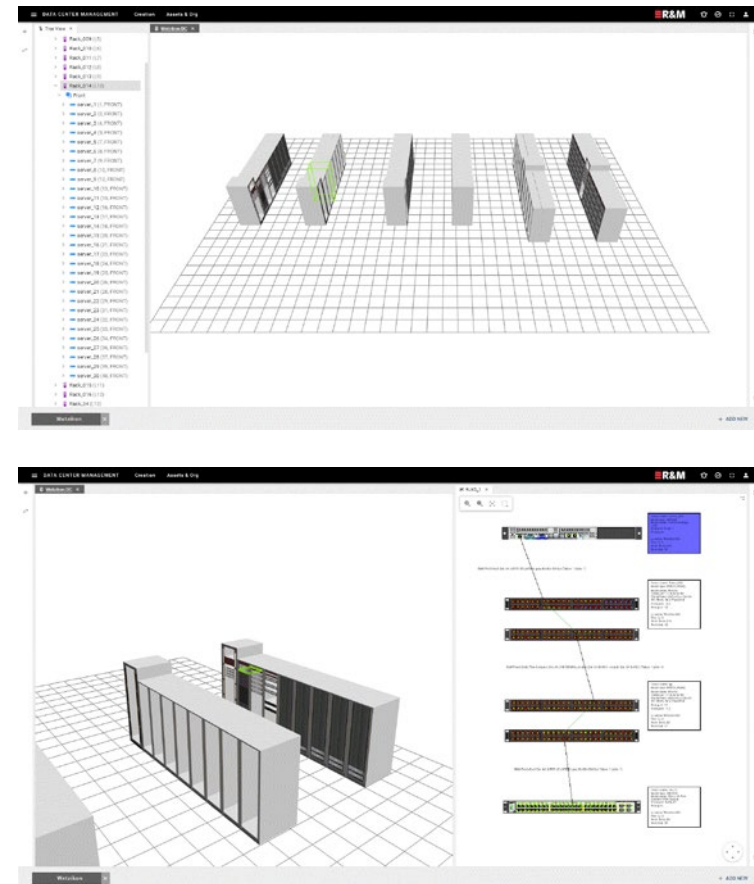
050.6506

Planning of New Infrastructure

Review the colocation floor space

As you will only rent a part of the entire available floor space, it is difficult to anticipate the availability of additional adjacent space which you might need in the future. As with residential property, you have little influence in your neighbors build-out plans. It is recommended to plan in additional capacity to grow, which is why maybe some of your future neighbors will rent floor space next to you even though they won't put in racks for the months to come.

For that reason it is important to evaluate the white space in question. Is it going to be enough in light of your growth plans? If so, examine the site layout to determine where the equipment will be placed. Ideally, you will have already created a digital layout of where all network and computing gear will go and how it will be connected to understand the move outcome. We recommend using DCIM software such as R&M's intelIPhy net to do this quickly and easily. The big plus in doing so is that you can take the model you have created for your planning of the new site and continue using it to increase operational efficiency as soon the migrated data center is running.

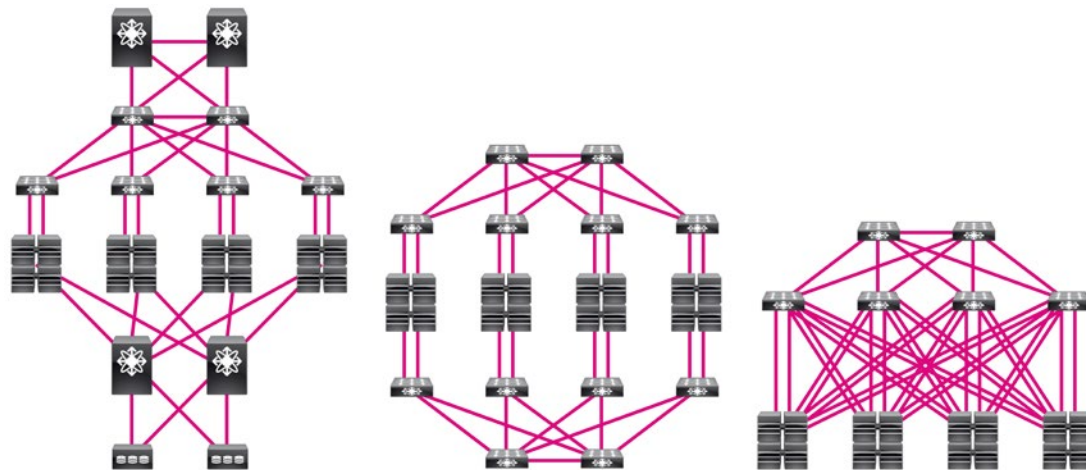


Examination of the architecture

Because your colocation move usually also stems from the expansion of data center infrastructure, it is an enticing opportunity to explore and implement innovative network architectures. While only a limited number of companies still operate a data center with a traditional, hierarchical three-layered, campus like network, many run a multi-chassis topology. A multi-chassis link aggregation group is an architecture in which switches work together to provide the illusion of a single switch to all the access switches. Here, the access switch uplinks can be aggregated, and, in this case, they can use all the bandwidth allowed. However, the downside is that due to the number of ports in the aggregation layer, there is only a limited number of access switches that can be connected to them.

Therefore, if scalability is limiting the growth of east-west network capacity, the migration presents an attractive opportunity to consider implementing a layer-2 fabric or also known as spine-leaf architecture. Instead of having core, aggregation and access switches, you work with spine switches and leaf switches. If you need more ports, you can add a leaf switch and connect it to the spines. And if you need more bandwidth for the east-west traffic, you just insert another spine switch.

Another architectural innovation that has been simmering for some years and is picking up interest in the last months, is software-defined storage (SDS). Here, storage is integrated into the server infrastructure. This virtualization has consequences for cabling as we illustrate in the network schemes below. Left: classic design with Ethernet and Fibre Channel network.



Examination of the architecture

Center: SDS alternative with two separate Ethernet networks.
Right: Consolidated Ethernet network in which both data and storage traffic is distributed via the same switches.

A third architectural consideration is the transitioning from a middle-of-row topology back to a top-of-rack design to support scalability and make precise internal billing of services easier to the data center management.

In any of these cases, it is crucial to capture the network design with the network engineering team and ideally model this information in an easy-to-use DCIM which you can employ for operation of the data center. With your source of truth, ensure that your IT deployment aligns with the power capacity designed for each rack and row.



Do you need to plan a new data center?

[R&M's Data Center Handbook](#) promotes a wide variety of valuable insights, to meet the challenges and expanding needs of today's data centers. The handbook is a rich source of information on how to successfully design, build, manage and support a data center.

It also contains detailed and user-oriented answers to all questions pertaining to the infrastructure and operation of a data center. Topics include networking technologies and next-generation structured cabling and the Handbook places an in-depth emphasis on Smart Networks.

Link Design

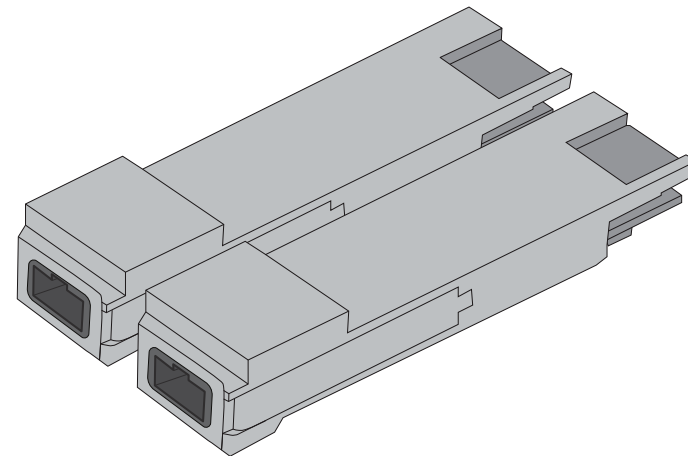
The architecture of the data center shall take into consideration the Ethernet speed required after migration and foresee the speeds needed in the future. Each portion of the design will have to consider a cost matrix determined by port speeds, link lengths, transceiver and connectivity types.

Port speed. Until recently, the Ethernet speed upgrade path was clearly defined as 10G to 40G to 100G. However, being driven by the hyperscale operators and semiconductor giants, the latest upgrade path for server uplinks will be 10G to 25G to 50G to 100G. 25G and 50G Ethernet have been standardized in 2016, 2018 respectively.

Link length. Connectivity within your data center needs a large number of links within fairly short distances. For intra rack cabling with lengths below 3 meters, direct attach cables or DACs are often used. Twisted-pair cabling provides for several dozen meters. For anything beyond 30 meters, lower-cost multimode fiber and associated transceivers render an appealing choice. The fiber, however, will have to be able to provide for potentially higher speeds with the next server generation. Singlemode fiber technology is usually chosen because of its capability to support link lengths at 500 meters and longer distances with even higher initial costs and demands for power.

Transceiver type. It is important to understand that there are many ways to realize a specific port speed. For example, the mentioned 25G Ethernet can be either 25GBASE-CR for DACs, 25GBASE-SR for multimode fiber, 25GBASE-LR and -ER for single mode fiber, as well as 25GBASE-T for twisted-pair. Which one you will choose is depending on link length and cost.

Connectivity type. Finally, the connectivity choice is depending on the choice of the transceiver. Today's form factors are usually limited on the LC-duplex, MPO and RJ45 – either as Cat. 6_A or Cat. 8.1.



Cable pathways and cable management

Fiber Raceway

Social media has its own hashtags for cable spaghetti photos. Unfortunately, strikingly often, these pictures stem from data centers inside a colocation facility. Here, where changes and adjustments may be made by third parties and might leave you without having the full visibility of the precise manner the changes have been performed, proper design of cable routing and cable management is especially important. Safe, well- organized pathways will help to insure any changes to the cable can be accommodated.

These should be planned and scaled to satisfy existing and expected demand. Again, an easy-to-use DCIM can be employed to plan the installation and simulate the usage of cable routing systems such as R&M's Raceway. Based on the results of this simulation, the suitable width of such as system can be identified.

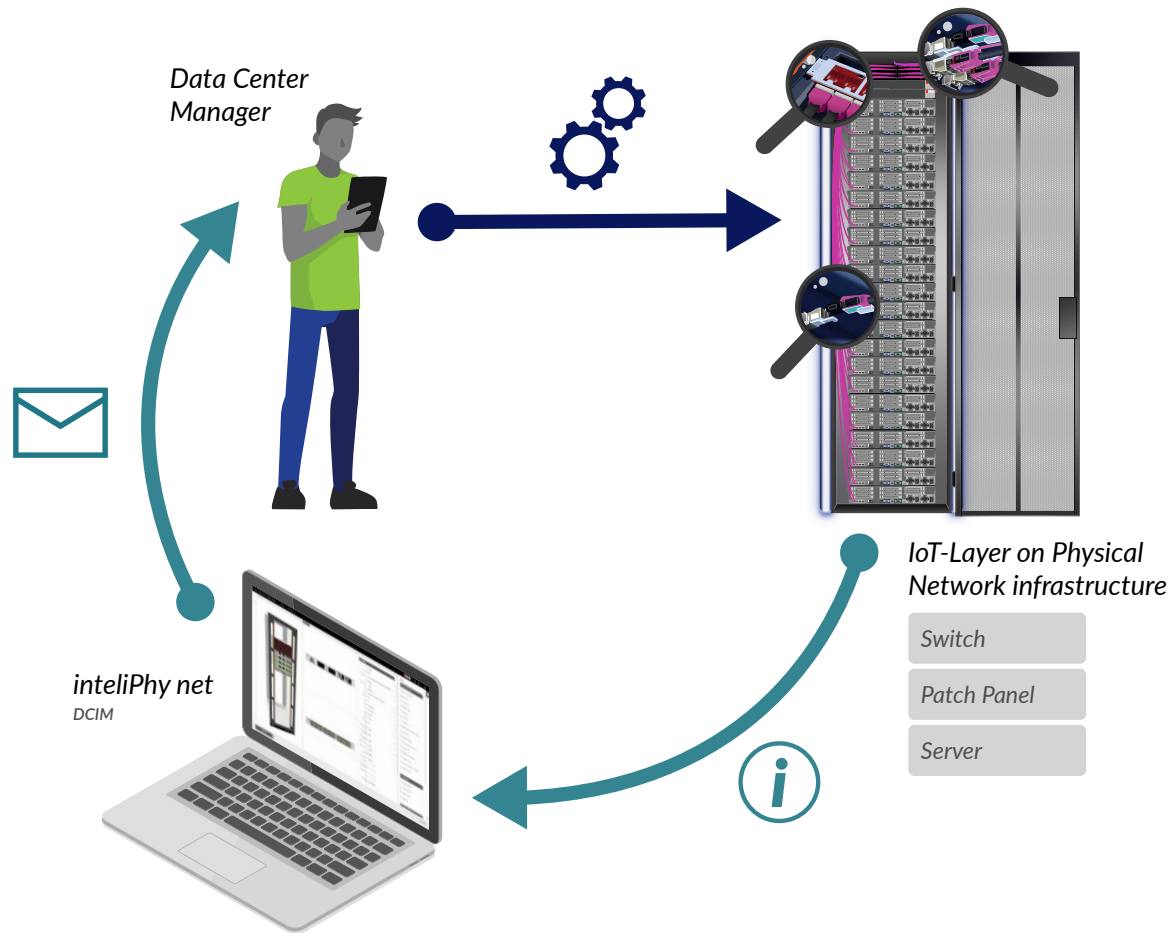
Cable management

To enable adequate routing of patch cords inside the rack as well as neighboring racks, rack space should also be reserved for horizontal cable management. Although it has become normal to use 600mm racks even throughout the data center, they can be troublesome when it comes to any future changes because they make it difficult to adjust without affecting neighboring links. Cabinets often come with integrated vertical cable management or can be equipped with separate ones added to the rack.



090.5310

Cable pathways and cable management



Smart Networks

Migration into a colocation data center implies growing reliance on remote management. It has been common to have insights into metrics such as network service quality, latency, server usage and the likes. All questions related to the physical infrastructure however, often need to be inspected on-site due to the lack of an IoT platform that digitizes the data and makes it available in a single source of truth. Solutions such as R&M's Smart Networks architecture based on the DCIM inteliPhy net and an inteliPhy IoT-layer which transforms every product into a «connected product», can document and report on the state of the physical network, device utilization and give real-time insights into performance of work orders with third party companies. It even goes so far as to alert any unauthorized action to make sure you are still in control of your hardware.

Pre-Migration

Pre-Migration Tasks

Once the concept has been developed, it is time to up the beat and create a day-to-day schedule (including dates, tasks and contact information) for representatives of the migration team. Dig yourselves into the physical specifications of the actual infrastructure and deployment in the colocation data center. Because at this stage, you will have to get acquainted with the site, including the location of the entrances and the doors. Also makes sure that your employees and contractors have direct access to the hosted site. Consider moving a phased project if necessary, to minimize the effect on vital resources and applications. Determine if you're going to require a migration service, and if so, plan it now.

All the architecture considerations discussed in chapter 4 are now in effect. Your future colocation space will either be a rack, a cage or an entire room. In any case, it will place restrictions to you which is why you should examine the following:

Installation directions

Create specific installation directions for each device, including position, and ensure that all cables and other equipment needed for installation are supplied.

Link lengths

As stated in chapter 4, the distances and speeds needed determine the form of transmission medium, the connectors and finally the patch panels. For example, RJ45-based copper links can only transmit up to 10Gb/s or 40Gb/s, whereas fiber optic systems today can transmit 100Gb/s and 400Gb/s within the data center. Since an increasing number of non-IEEE-specified applications, so-called multi-source agreements (MSAs), have been published in recent years that go beyond IEEE lengths, we have developed R&M's Netscale portfolio to serve these applications as well.

Tick-off lists

Document new configurations and create check plans to ensure that all the hardware and software are working.

Pre-migration installations and configurations

Install rail kits and other hardware that can be installed before the move. Ensure that rack PDUs and environmental sensors are configured and controlled before the first IT device is deployed and turned on.

Perform Speed Tests

Evaluate data transfer speeds between source and destination environment.

Pre-Migration Tasks

In addition to the actual design and construction of the space, the question of the entrance to the colocation data center itself also arises. This question is not only valid during the design and deployment, but even afterwards. Below are a few concerns regarding physical access that you should examine:

Access

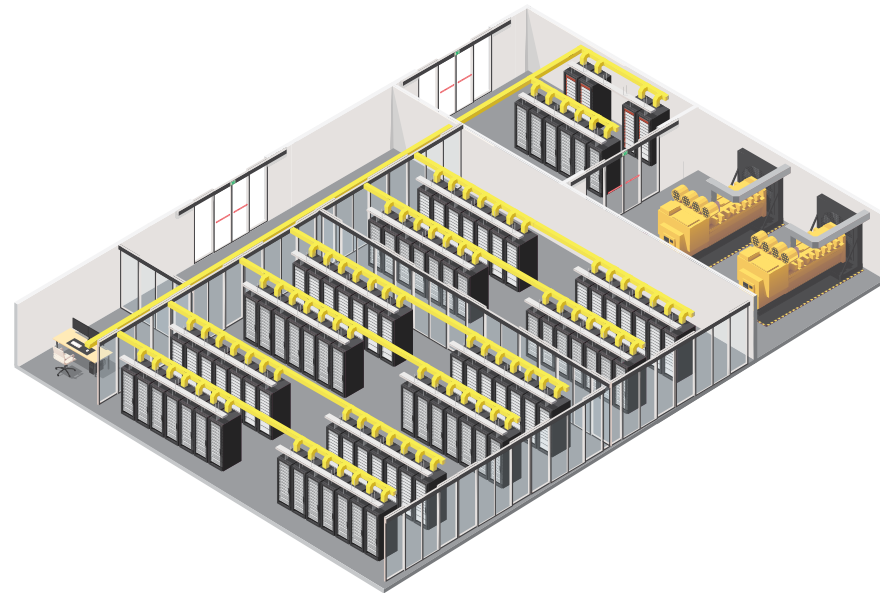
How do approved employees have access to the colo? Which is the method of granting someone access? Ensure that all appropriate team members have access to the site.

Paths and rooms

What areas are open to your engineers and contractors? Clarify and communicate which hours your team can do their regular and emergency work.

Logistics

What does the colo's delivery process look like for things and devices that need to be installed? Is there a secured room for receiving and storing such?



Getting ready for the big move ➔ Once these topics have been clarified, open questions have been answered and a migration schedule has been defined – it is time to perform a tryout of the migration.

Actual Migration

Migration Planning

Now that the design and physical specification as well as the logistics have been clarified, it is time to start the initial migration of the data center. This phase consists of two sub-phases: migration planning and the actual migration of the infrastructure, data and applications themselves.

For all the considerations that have already been made in the previous phases, it is time to develop a realistic, detailed and comprehensible action plan that can prepare you for the initial migration. Based on our experience, we recommend that you consider the following aspects.

Risk reduction

Get appropriate levels of insurance coverage and arrange for security if necessary.

Schedule

When should the migration be carried out? Most likely, deadlines for business-critical services will give you a limited time window. It has often been helpful to use deadlines as a starting point for planning and to calculate back in time. If you need access to your data at 7 am Monday morning, when do you need to start to make sure you'll be ready on time? Depending on the scope of the migration, it can take hours or days to get every-

thing in place. Track the progress of the migration and ensure it is done on schedule.

Staff

Make a list of all the people who will be on site in both your on-premise data center and the colo for the migration. Notify all your relevant ICT solution partners, as they may also need to have staff on site. Check if all the staff has been hired and, of course, make sure that your entire IT team and all partners are on call for the duration of the migration.

Infrastructure and IT hardware

Make another list which infrastructure elements and IT assets are being migrated, replaced or simply decommissioned. Ensure that all hardware has been provided. Each device must first be identified. Then, if not already done, each object must be marked with the manufacturer's name, model and serial number, OS version, licenses and MAC address. If you have a DCIM which, like R&M's intelPhy net, has an asset management function, you should use it as a single source of truth for all this data. The DCIM workflow management tool will simplify the execution and monitoring of work orders.

Migration Planning

Documentation

Your inventory documentation should include all servers, as well as all routers, switches, data storage, converged and hyper-converged infrastructures, rack power distribution units (PDUs) and firewalls. Most critical for each device is the documentation of all interfaces such as partner VPNs, cloud connectivity, connections between critical apps, servers and storage; IP addresses; as well as firewall access control lists (ACLs).

Accessible plan

Ensure that any IT asset has a transfer plan or work order that is conveniently accessible via hard copy, tablet, smartphone or laptop. The migration plan must be easy to interpret and clearly display precisely what cabinet, U location, network cables, power cables, rack PDU outlets, and panel or port switches should be used for each system.

Operations

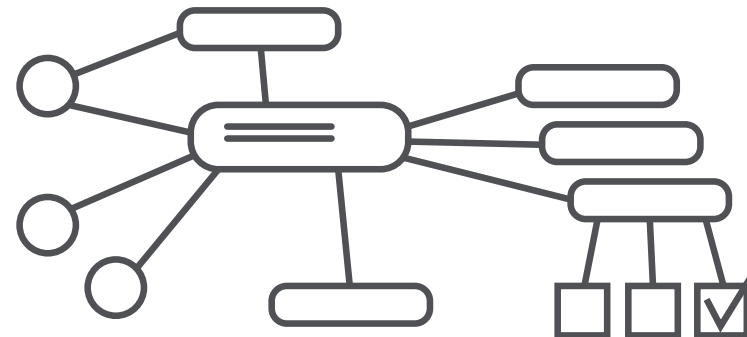
How long does your colocation migration strategy require parallel operation between old and new data centers? Define the roles, responsibilities and schedules of the on-site technicians to ensure smooth operations.

Testing

Start with high level testing by verifying that migrated services are accessible and available. Then continue with issue resolution. Resolve any accessibility errors until migrated services are visible and ready to be released for functional testing by the responsible staff.

Plan B

Nobody said that data center migration is immune to Murphy's law. Check that you have planned for everything from spare parts, to packing materials and power-down procedures to specialist technical staff available in good time.



Actual Migration

The migration plan is set. Everyone's ready. The big moving day has finally arrived. Now it is time to pay attention to the following topics when the equipment is ready to be loaded.

Logistic risks

Now every action must be right, because every minute counts during this whole process. Be prepared to come up with your plan B, because it is always possible that on this very day key personnel will be absent due to illness or that bad weather will cause massive traffic delays.

Clear responsibilities and decisions

At each stage of the checklist, a decision of whether to move to the next stage or to reverse the migration due to unexpected challenges has to be taken and communicated.

Asset tracking

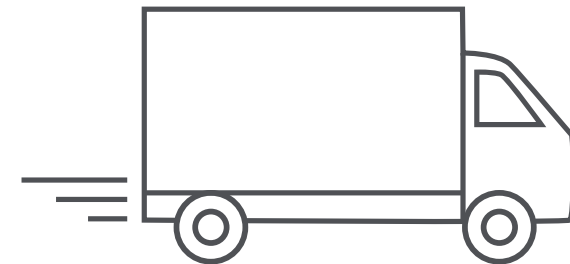
Use your single source of truth to track every transition stage of single IT asset. Has it already arrived on site? Is it already deployed in the rack? Is it powered and connected? Conduct a spot audit to ensure that equipment is physically installed and connected as documented. Then, continuously update your source of truth as the deployment team installs each element to acquire the maximum degree of asset position information.

Copy and configuration

Execute initial data transfer of all databases and configurations from source to destination. Then copy and transfer all applications, web services, SSLs and sites. Can all migrated services, including database connection strings, be verified or do they need to be re-configured?

Sign off

Various owners must sign off the physical infrastructure built during construction. Consider this as validation of ownership – where the owner of every server, switch, router, storage, racks, cabling plant etc. is giving the thumbs up on their puzzle pieces.

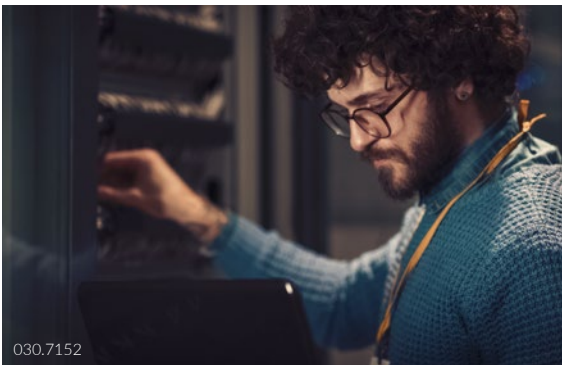


After the initial migration comes the post-migration ➡ Congratulations! All the hard work that you and your team have put into this project has now culminated in your data center being relocated into your colocation provider of choice. The last chapter will take you into the post-migration tasks.

Post-Migration

Post-Migration

Now, that all the hardware, software and data is migrated, it is time to begin the new normal of managing your data center network within the colocation data center. Time to relax? Surely not. Operations need to revert to the pre-migration state. As such, any planning should consider the state of operations daily as well as post-migration monitoring and response possibilities. While some of the topics listed on the following pages would be recognizable to anybody who has run an on-premise data center, there are several significant distinctions in the context of colocation.



Testing

Performance tests offer detailed insights on how the new data center and its applications operate relative to the legacy system. It is a companion process for calculating the true ROI of your migration, as well as a communicative one. Complete the system testing per the migration plan to ensure all devices and applications have been successfully migrated.

Adopting data center infrastructure management (DCIM)

Since these applications are specifically designed for center monitoring, you will receive 24/7 insights into your IT assets and the physical space in which they reside. You will have the advantage of removing the organizational silos that have historically existed within divisions and inside teams. From a data center to a facilities manager, everybody has the same connection to the same DCIM applications, bridge connections, expedite

decisions and making it easy to operate the system at the most comprehensive.

Power monitoring

Ensure that the Network Operations Center (NOC) department sees the collected energy details and services back up.

Auditing

Audits are instruments used to determine if the data center runs according to standards. Audits require correct data for their reports. With increasing physical distance to you and your team, automating the way you audit, track and manage your physical network becomes more important. R&M's Smart Networks architecture delivers real-time insights on capacity, changes, and end-to-end connectivity visibility to optimize infrastructure performance and mitigate risk. Connectivity information, supervision and alarms close visibility gaps and deliver actionable diagnosis in seconds what used to take hours.

Post-Migration

Troubleshooting procedure

What is your strategy in case of down-time? Do you already have the necessary tools for troubleshooting? Now it is far more important to have a documented troubleshooting process than it was in your on-premise data center. This procedure should include a checklist of actions to be taken. As in the auditing case, a Smart Networks solution can be an invaluable tool for optimizing your operation, in this case with focus on minimizing MTTR.

Notifications of emergencies

Keep a register of staff to be alerted in case of emergency. If you have automated the monitoring of your physical network infrastructure, this alert can also be embedded in an automated process.

Cleaning up

If not done yet, decommission and dispose the old equipment and cabling as necessary.

Remote hands

Make sure you have a plan for your technicians to have access to the problem day and night. If you sign a contract with the colo's support team, they often provide remote hands service and ensure that access to technicians is available around the clock at the data center. Also set up an escalation policy so the responding technicians know who to contact if they cannot resolve the incident themselves. Clarify whether there is a customer portal for all remote hands service requests. Ideally, a ticket is created immediately, and the progress is tracked until completion, so you can be sure that your request is performed.

Expansion strategy

As discussed in Chapter 4, it is wise to consider how planned or unplanned growth can be accommodated by the colocation data center. Do you have additional space to grow in your current cage or room? Is adjoining space available?

If you need more space, but can only do so by fragmenting your infrastructure, how will the colo handle the necessary connections between your racks?

Management of the lifecycle

The growth in scale and complexity has brought you into your colocated data center. All global IT indicators and experience tell this growth won't change after migration. Stay on top of the individual lifecycles and maintenance of your IT assets. Be mindful of the potential necessity to continuously introduce next generation devices. A successful colo operator is a true companion in this endeavor and can help you understand new opportunities and productivity gains as soon as they are readily accessible.

Partnership

Where to start

Trust. The decision for a colocation data center is based on trust. Like with all good plans, obstacles, drawbacks and failures in the migration of IT are expected to occur. The key is to be ready for those risks when they arise, and to make proactive preparations that minimize the effects on your company. Working with an accomplished partner to help you through the seven steps is one strategy to increase your likelihood of success.

Once migrated. It is crucial to be able to control the entire operation yourself at any time. From the relocation, to the cabling, to the administration of the network in the remote colo, you want to act confidently. This is how trust develops. And this is exactly where R&M supports you with connectivity solutions, management tools and service.

For more information on a successful, efficient departure into the dynamic world of colocation, reach out to one of our experts now:

www.rdm.com/Company/About-R-M/Contact



030.6737

Complete Connectivity Solution from R&M for NTT's Global Data Centers

NTT's Global Data Centers' division is the third largest global data center provider, operating more than 160 data centers in the Americas, APAC, EMEA and India regions. Global Data Centers EMEA now operates seventeen data center locations within Germany, Austria, Switzerland, the Netherlands and the United Kingdom.

Strong growth in Europe

Data centers are an important part of network infrastructures. Sectors such as financial services and healthcare are becoming more aware of cloud computing, resulting in an increased use of data centers. Focusing on the colocation business, NTT is investing in the London data center market by constructing one of the largest data centers in the UK. London is a strategic hub for data center services for both UK organizations as well as multinational companies who have established offices there and, from both a physical and digital perspective, require reliable services to reach local clients even faster.

The new data center will be known as «London 1» and is capable of up to 25,600 sqm of IT space and 64 MW IT load once fully developed. In addition, London 1 will join five existing NTT-owned data centers, interconnecting with these existing data centers and creating an impressive networked London operating platform and able to support over 100 MW of IT load.

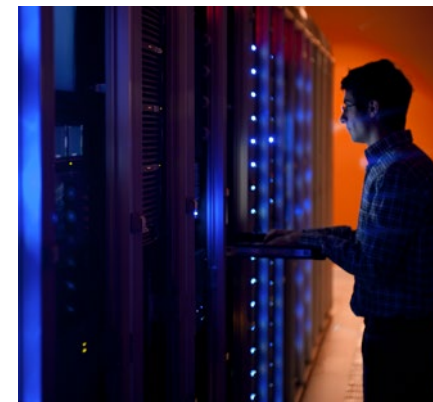
As a long-standing partner of NTT's Global Data Centers, R&M has been valued as a reliable partner and quality leader which is why it was selected for this project.

Modular and scalable cabling infrastructure

R&M served NTT with infrastructure for the carrier rooms, with a custom-designed version of its SCM optical distribution frame (ODF) and single mode cabling for the meet-me-room and delivered its HD solution with LC-MPO modules for the client area presentation.

These and more fiber optics and IoT-based smart networks solutions are part of NTT's new Technology Experience Lab in London 1.

datacenter.hello.global.ntt



Headquarters

Switzerland

Reichle & De-Massari AG
Binzstrasse 32
CH-8620 Wetzikon

www.rdm.com

R&M Blog Portal

www.blog.rdm.com



/reichle-&-de-massari-ag



/reichledemassari



@reichledemassari



/ReichleDeMassariAG



@reichle_massari