This is the future of your business

Moving to SD-WAN makes plenty of sense, solving a lot of technical headaches and enabling greater business agility. It’ll help you do all kinds of things it’s difficult to do today:

• Support an agile, innovative, always-on workplace

• Ensure consistent high-performance for business-critical apps

• Simplify (and centralize) visibility and control of your network

• Get a granular view of app performance and usage

• Automate routine network management tasks

• Reduce the time and complexity of deployments

• Improve network efficiency and scalability

But nobody said it would be easy...

Of course, this move is a complex undertaking and you’ll need thorough planning and preparation to ensure your implementation delivers the results you’re looking for.

SD-WAN will underpin the way your IT infrastructure and your business develop in the future, so it needs to be optimized for today’s complex, multi-cloud environments — and future-proofed for tomorrow’s.

Not only that, but you’re also shifting to a new, software-defined way of managing your network, that’s a big change for network administrators, demanding new skills and ways of working.

Plus, any major transformation, especially to the network your business operations rely on, is likely to cause some disruption. You’ll need to anticipate this and make plans to minimize it.

In this guide

This handbook takes a practical look at how to get your migration right, questions to ask, pitfalls to avoid and best practices to adopt at each stage, as you prepare your network for the future of your business.

As you plan your SD-WAN implementation strategy, there are three key areas you need to consider: the solution design, project planning and management, and the implementation itself.

Let’s look at each one.
Just like any IT transformation project, designing your SD-WAN solution starts with defining your to-be state, assessing your as-is, and figuring out how to bridge the gap between the two.

**Define your success criteria**

Before you can design anything, you need to know what success looks like. What issues are you experiencing that SD-WAN can help solve? Consider factors such as:

- App performance issues
- Connectivity and reliability problems
- IT management complexity
- Slow deployment and provisioning
- Poor visibility and control of complex WAN environments

What are the specific, measurable goals you need your SD-WAN to achieve? For example, your objectives might focus on:

- Throughput performance demands of specific apps
- More stringent SLAs for mission-critical services
- Time to market for new deployments
- Increased efficiency in IT operations

**Success factors**

To see how everything fits together, it’s essential to understand the flow of connectivity across your infrastructure. A clear picture of traffic patterns and interdependencies across on-premises systems, cloud services and SaaS apps will go a long way. It’ll help you design connectivity, set network parameters and create routing policies that align with your goals and priorities.
Design your solution

Assess your current environment

With your strategic goals in mind, analyze your entire network infrastructure to assess your as-is state.

- What apps are in use?
- How much traffic does each app generate?
- Are there busier or quieter periods for individual apps?
- Which locations account for the most traffic?
- What cloud services are being used, and will your chosen SD-WAN solution support them all?
- Which apps and services need the highest priority routing?
- Will your transport infrastructure and access lines be able to deliver your future performance needs?
- Are your current routing protocols suitable for SD-WAN?

Success factors

Your WAN is just one part of your network functionality. If you want to solve performance issues or address new application demands, you need to understand how your SD-WAN will integrate with your broader infrastructure to meet your routing and bandwidth requirements.
Design your solution

**Identify how to bridge the performance gap**

Define, in detail, what needs to go and what can stay.

What needs to change in the network to deliver your desired outcomes? Think about the impact of SD-WAN on factors such as:

- Overall network architecture
- Access types and lines
- IP transport layer
- Routing and security policies
- Networking skills and training needs

And, on the flip side, identify the things that can stay the same. A thorough analysis of your infrastructure will let you see where existing components can support your SD-WAN implementation just fine.

If you can find ways to add devices to what’s already there, you can avoid the cost, complexity and disruption of rip and replace projects.

**Success factors**

Your network will only ever be as good as the way users access it. If your access lines aren’t up to task, you won’t get the results you’re looking for from your SD-WAN. Assess your access types and transport infrastructure to be sure they won’t let your SD-WAN down.
Design your solution

Three tips for successful solution design

Policies
Define policies based on the routing, bandwidth, performance and prioritization requirements of every app.

Security
Take this opportunity to update your security policies, so they’re fit for the future of your agile, flexible, multi-cloud environment. (To learn more about the new world of network security you’re entering, check out our [SD-WAN security guide](#)).

Future-proofing
Ensure your network architecture allows new apps, cloud services and remote branches to come on board easily, without the need for major changes to policies.
Your solution design checklist

- Agree the desired technical and business outcomes
- Assess your current network architecture
- Define current and future app bandwidth and performance requirements
- Identify IP transport and access needs
- Design the high-level logical architecture
- Design the detailed virtual and physical network architecture
- Update or create new routing and security policies
- Implement the solution to the agreed design
- Test all SD-WAN components
An SD-WAN implementation is a huge project, and it’ll need robust management and rigorous upfront planning to keep it on time, on budget and on track.

Work with your managed services provider to answer these questions:

1. Who has overall responsibility for each element of your implementation?
   - Project management
   - Technical oversight
   - Migration activities
   - Meeting success criteria

2. How much time is the project likely to take?
   Tip: Depending on site design and complexity (i.e. transport required, infrastructure, etc.), implementation could take no more than a few weeks.
Plan and manage your project

3 What transport and access infrastructure changes are needed?

For example, how will your SD-WAN devices integrate with your existing MPLS? Will you need to upgrade Ethernet cabling, broadband access or FWA lines? And how long will upgrades and integrations take?

4 How much physical space will you need for new edge devices, including desktop and rack-mounted units? (Even in the software-defined world, the black boxes need to go somewhere.)

5 What level of resources will all parties need to provide? Where will they be needed? And when?

6 How will you coordinate internal and external resources?

Tip: Open up clear lines of inter-team communication and feedback loops. And define specific responsibilities, and a transparent chain of command, across the project teams.

7 How much of the heavy lifting of the implementation can you offload to your managed services provider?

An experienced partner will bring repeatable processes and troubleshooting expertise to accelerate your SD-WAN deployment and make sure it’s successful.

Success factors

Decide which locations and apps will get the most value from your SD-WAN migration, so you can prioritize the stages of your deployment. Various factors will come into play here, including which sites have the highest traffic volume, which apps will benefit most from performance hikes, and where your apps are hosted.
Take your SD-WAN for a test drive first

Moving to SD-WAN is a major change in the way you manage your network, so your teams will need to practice everything, from deployment and troubleshooting, to monitoring, orchestration and reporting.

Do a small-scale trial project to kick the tires on your SD-WAN and ensure it will support your performance requirements, app priorities and access types.

Even if you opt for SD-WAN as a fully-managed service, a pilot project is a good way to have your provider prove themselves before you hand over the keys to your entire WAN.
Your project planning and management checklist

- Define roles and responsibilities across internal and external project teams
- Gather all project requirements
- Agree timelines
- Identify priority apps and sites for SD-WAN migration
- Finalize resourcing needs at each stage and site
- Run a pilot project, using the lessons learned to refine plans and optimize the full rollout
Execute your implementation

Implementing an SD-WAN is a genuine transformation, not just for your network, but for your whole business. With the right provider, there’s no need for your implementation to cause huge business disruption. But there are some practical steps you can take to keep disruption to a minimum.

Choose the right moment

For any network transformation, timing is critical. You should plan to execute your implementation out of hours or during a less busy period to minimize disruption for users. Another good option is to deploy your SD-WAN during a scheduled maintenance window.

Remember: like any complex migration project, there may be some troubleshooting needed during implementation, so allow a big enough window to make any tweaks you might need. The last thing you want is to be rushing through something this important.
Execute your implementation

Communicate effectively

There are two sides to this coin: external and internal communication. Get either one wrong, and it can quickly derail your SD-WAN project.

Make sure you give your provider detailed, accurate information during the discovery phase of the project. For example, a ‘hidden’ routing protocol that surfaces after implementation can easily undermine all the hard work you put into designing your new architecture.

Equally, the way you communicate the change to your teams is important, so your implementation is seen as a vital leap forward that will make everyone’s lives easier.

Tell users they can expect a minor blip in service during the implementation, so you’re not fielding hundreds of support calls on the day. And be sure to clearly emphasize the benefits of the transformation — for your end-users and for your IT teams.

Coordinate device installation

All the intelligence in your SD-WAN lies at the network edge. And while edge devices are generally quite simple to install, it takes a coordinated effort to orchestrate a seamless migration.

If you’re installing edge devices at your branch locations yourself, make sure everyone involved knows when, where and how it needs to happen (and who’s going to do it).

If your provider is installing the devices, ensure they have easy access to everything they need. Is there sufficient power supply? Have you freed up rack space (or desk space) for the new devices?

Success factors

Your implementation is just the beginning of your SD-WAN journey — never underestimate the importance of ongoing support from your managed services provider. Make sure your provider will:

- Monitor SD-WAN performance, is it doing what you need?
- Combine reactive troubleshooting with proactive optimization
- Offer complete change management for service change requests
- Gives you an online portal to review support tickets and change requests
Your implementation checklist

☐ Give your managed services provider all the information they need, so there aren’t any surprises during implementation

☐ Identify the optimum time and date for a smooth deployment

☐ Tell end users what to expect before, during and after the implementation

☐ Communicate the benefits to your IT teams, and provide any SD-WAN training necessary

☐ Define orchestration processes for installing edge devices

☐ Agree ongoing post-implementation support services and SLAs with your provider
Over to you

We hope this guide has helped you think about how you can implement SD-WAN with less effort, minimum disruption and better results.

Now it’s time to work with your provider to prepare for an implementation that’s:

• Cunningly designed based on a full understanding of success criteria and a clear picture of your current infrastructure

• Properly planned with clearly defined responsibilities and timelines, optimized resource allocation, and lessons from your pilot project taken on board

• Brilliantly executed with slick implementation processes, expert troubleshooting and clear lines of communication

• Expertly supported by a managed services provider that can continually optimize SD-WAN performance to help you achieve your technical and business goals

This is going to be a big leap forward. And like any meaningful transformation, the devil lies in the implementation’s details.

We hope the advice in this guide helps you have a smooth, pain-free deployment. And we’re sure SD-WAN will prove to be one of the most important investments your business makes.
Why Sprint for SD-WAN?

Industry-leading optimization tools
Our network management tool, Compass, makes it easier to optimize, manage and report on your network performance.

Award-winning support
You get our award-winning Bend-Over-Backward™ support, implementation consultation and management, and engineering and project management.

Transport and access-agnostic service
Sprint SD-WAN works with a range of Sprint access options, including Ethernet, broadband internet and fixed wireless. But if you’ve got a broadband connection with one of our competitors, that’s fine too. You don’t have to go all-Sprint to get our support and expertise.

A global infrastructure
With Sprint’s global infrastructure, you’ll have access to a best-in-class global all-IP network, the market-leading SIP trunking solution, a global UCaaS offer, SIP origin-less pricing, simple MPLS port/access pricing and no charges for Class of Service, multi-cast, multi-path routing, or Enterprise Extranet.

And simple, as-a-service pricing
So you can pay for your network as simply (and fairly) as you pay for your software, based on your bandwidth needs.
Let’s talk

Ready to find out more about how we can help you design, plan, execute and support a smooth SD-WAN implementation?

Contact your local Sprint representative today to learn more. Call 1-866-653-1056 or see more details on sprint.com/sd-wan