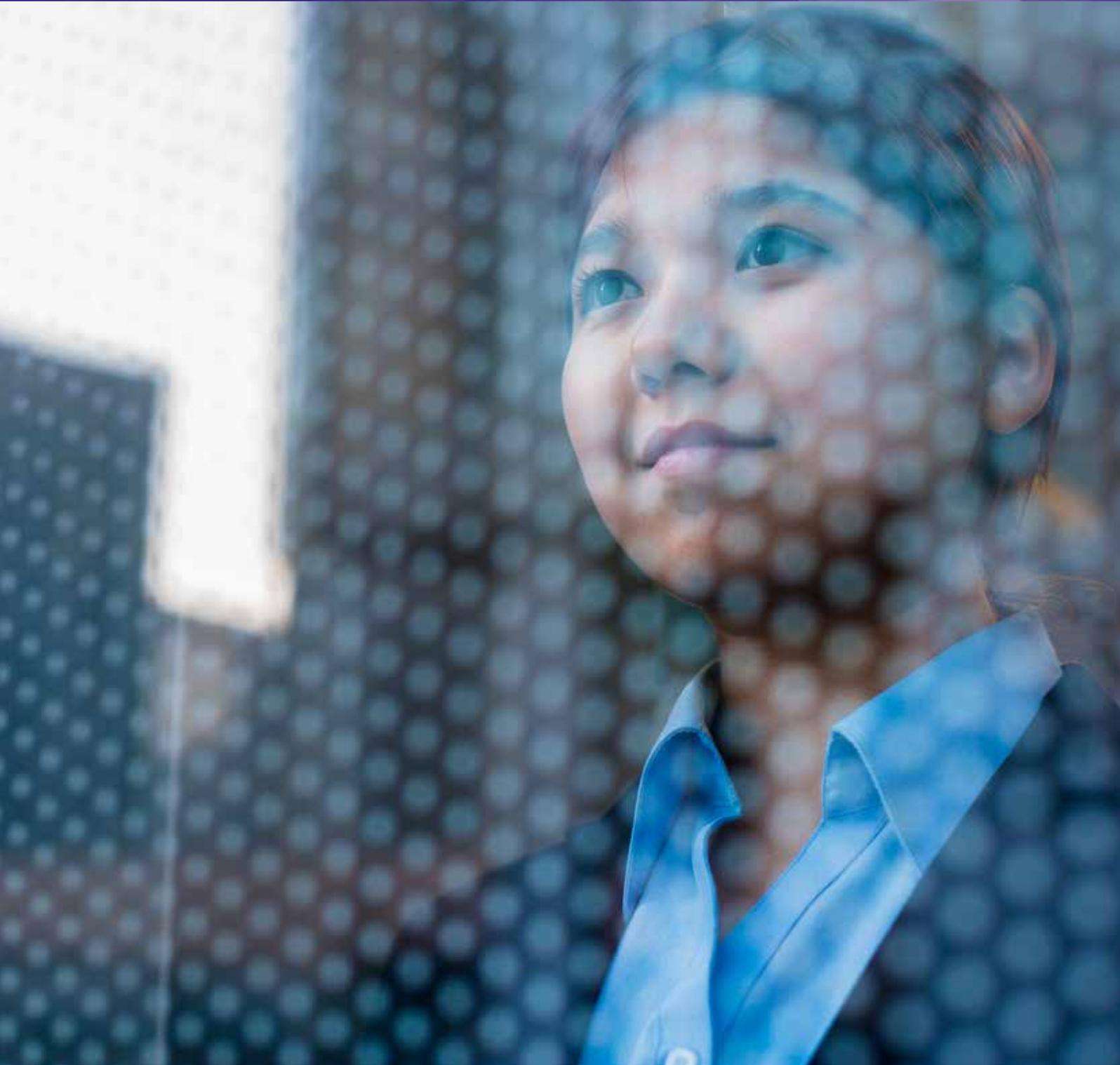


Navigating the Network Service Integration maze.

A whitepaper by Graham Ramsden, Rob Thomas and Gerard O'Neill.



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Introduction.

Welcome to the network services maze.

It's said that, in a bank, the most important thing is cash. The second most important thing is the network. Whether this is precisely the case or not, it's true that how well the network functions is a critical issue for all large organisations.

It's also obvious that it is extremely challenging, if not a Sisyphean* endeavour, to continuously maintain the right network operating model. You need to balance cost, risk and quality in the face of the volatile and spiralling requirements imposed by cloud, big data, video, mobile and a hostile threat environment, to mention but a few. And equally clear that success or failure in doing so can be career defining.

What works for one organisation won't necessarily work for yours. There's no panacea or silver bullet.

This paper explores the value and challenges inherent in the art and science of Network Service Integration (NSI). It outlines some of the smartest strategies and tactics that can be applied to navigate through the maze, based on our track record (over the last 15 years) of doing so in retail banking, investment banking, insurance, logistics and consumer packaged goods.

What is NSI?

NSI encompasses the complex set of activities required to source, deliver and operate network infrastructure and services in a way that meets your capability requirements and budgetary constraints.

The key elements of a world-class NSI operating model, in our opinion, are:

- a **commercial framework** and **service catalogue**, which underpins end-to-end service levels, is committed to cost savings and contractual delivery, and tied to critical application performance
- a standards-driven and API-based **operating model** that meets your business performance requirements, with a high degree of automation that can integrate cloud and enterprise services
- right-sourcing and right-locating of functions including sourcing and integration of **third-party services** and **infrastructure**
- commitment to the business to deliver continuous improvement and transformational **change programmes** with material 'skin in the game' from **vendors**
- rigorous application of **policies and controls** to ensure regulatory compliance and maintain business continuity.

* Denoting a task that can never be completed.

Why is NSI so important?

For some, the network is just the plumbing, so it's worth spending a few words reflecting on why getting NSI right is such a big deal for you.

NSI is intimately connected with your business success.

Your strategy for growth, profitability and other key metrics is enabled through your business processes. These are automated and supported by a wide range of systems and applications. Information is their lifeblood and any interruption to its flow is quickly felt downstream in the form of delays, added cost, broken promises and disappointed customers.

NSI is important because poorly integrated network services are likely to be reflected in the way applications perform. Any degradation in the performance of a critical application will impact the business processes it supports and cause your business to underperform and affect shareholder value.

The opposite is also true: well-integrated network services can provide competitive advantage. The companies that pioneered vendor-managed inventory (VMI), just-in-time (JIT) and just-in-sequence (JIS) manufacturing, secured first-mover advantages that took their competitors years to match. The performance of the networks that enabled them to share real-time information about inventory levels and manufacturing plans was central to their success.

The relationship between efficient business operations and a high performance network is intimate. The network touches everything: it connects every user, every application, every device, every supplier and every customer. It's the platform over which all your information is exchanged and the selection of network providers and integration of services is profoundly important.

NSI sits at a pivot point.

IT spend in most industries is typically one to two per cent of revenue. Network services account for 10 to 15 per cent of this, and NSI spend is an even smaller fraction of this fraction. Small in relation to total IT spend, it's a drop in the ocean compared to spend on big-ticket functions such as supply chain operations which will often be 60 to 80 per cent of a manufacturer's revenue, for example.

This 'small beer' status is deceptive, though. NSI is located at a critical pivot point between downstream spend on the underlying network services and upstream business impact. Investment and improvement in networks and how they support your business can have a powerful gearing effect, regardless of industry.

One estimate of the annual spend on trading infrastructure in financial services, including low latency networks, is \$2.2bn – the expected return being several times that figure.

The NSI pivot swings both ways and network inefficiencies can be very costly. A bank employing 100,000 people might spend £250m per annum on network services, but only £20m on NSI activities.

If network integration and performance issues caused every employee to suffer four hours unproductive time per month, the opportunity cost would rival the total network services spend for a year – a compelling case for investment, if ever there was one.

Why is NSI so hard to do well?

The adoption of mobility, unified communications and other technologies has changed the way we work, freeing us from our desks and enabling us to access applications wherever we are, whenever we want. The number of network end points has proliferated while the perimeter is dissolving.

This has made securing the network, predicting demand, provisioning capacity and managing quality of service much more challenging.

The move towards the cloud, with all its compelling benefits, adds another layer of complexity for network services integrators and demands a new set of tools and skillsets. Artificial intelligence, virtual reality, robotics and other next-generation technologies will compound these complexities further.

These challenges do not sit well with the imperatives facing most CIOs, who are being asked to:

- reduce cost
- increase the value-add of IT by releasing talent from routine tasks
- transform business processes through digitisation
- provide 24x7 uptime for critical systems
- ensure regulatory compliance and protect the company's intellectual property from cyber-attack.

Guaranteeing application performance in today's environment is easier said than done. Acquisitions, growth, cutbacks, consolidation, expansion and downsizing take their toll over the years and the IT landscape in even the best-run enterprises can resemble a plate of spaghetti.

For this reason, organisations are increasingly looking to professional service providers to multi-source network services on their behalf.

There is no dominant trend in how organisations are adopting NSI.

In contrast to the adoption of cloud services where enterprises are moving in one clear direction, in the case of NSI, we see them moving in different directions, without one dominant trend.

Some have decided in favour of selective multi-sourcing of network services from a variety of third parties, often on a regional basis, managed internally. Some have opted for full global outsourcing, while others are insourcing, with large retained IT organisations to source and manage network services.

Mixed models can be found too, often involving the outsourcing of basic technical support, along with expert back-up in particular areas, with everything else managed internally.

Put another way, the wagons are not all headed west: some have headed off north and south while others, after an about-turn, seem to be headed back to where they came from.

What is right for your organisation at one point in time may not be right in the future. Business pressures will usually dictate the direction you choose, but corporate culture plays an important role, too. If you're risk averse, you're less likely to adopt full outsourcing of network services, even if the business case is there.

An almost religious desire to change the status quo cannot be underestimated either, where the need to make change and do things differently can override objective business analysis.

What can be done to navigate the NSI maze?

We have observed and implemented a number of strategies and tactics that can be effective, in the right circumstances, in driving the desired outcomes from NSI.



Retain flexibility.

Let the outcome of cold business analysis decide what network service management model is chosen. But you should retain contract flexibility and avoid committing your organisation irrevocably to one direction. Network science is continually evolving and there will be different, better ways of doing things three years from now – a time horizon that sits well within the lifecycle of most NSI contracts.

Specify shared service levels.

Maximise the incentive for your suppliers to work together by making them share end-to-end responsibility for business outcomes. Make sure that capacity management, incident management and other processes are completed in the same way, to the same service levels, and associated with similar weightings and penalties. A two-hour time-to-repair SLA should apply collectively across providers, not individually, to drive collaboration, minimise blame allocation and provide you with a more joined-up service.

Integrate cloud services.

Cloud services enable the rapid provisioning of infrastructure and services with the ability to scale up and down as required, on a pay-per-use basis. Because it is unlikely that a single cloud services provider will meet all your needs, it's important to have a partner capable of integrating cloud services on your behalf.

Co-locate teams.

Ask that suppliers co-locate support teams at each other's premises or better still, if space allows, at your site for closer collaboration and better integration.

EAST (Eliminate Automate Standardise and Transfer) your workload.

Don't simply transfer roles from one location and provider to another. Re-engineer and adopt a preference to firstly eliminate unnecessary work, then automate work wherever possible, standardise to one best way of working where feasible, and finally transfer it to the lowest cost place where it can be done effectively.

Ensure end-to-end service level management.

Benefit from the scale and expertise of a network services provider by appointing it as global NSI across all networks (regardless of who the provider is) for a better and more consistent user experience. If you're reluctant to release control of your network to a third party, consider engaging a global network services integrator to provide advisory and support services on a consulting basis, while you retain control and responsibility for network services.



Build, operate and transfer.

One way to ensure control with rapid benefits delivery is to hire an NSI provider to build and operate your network capabilities and, when mature, to transfer some or all of the functions back to your in-house team. This combines the service delivery and management expertise of a professional outsourcer, with an accelerated learning curve for the in-house team.

Contract for guaranteed savings.

Savings guarantees are a commercial mechanism for ensuring you get value for money by handing control of your network to a third party. We believe they can deliver superior results to benchmarking, which often struggles to find the right like-to-like comparisons. Savings guarantees are, in practice, rather complex to administer and are not common practice, but we've used them and have expertise in integrating savings guarantees into NSI contracts with impressive results.

Outsource functions selectively.

NSI outsourcing does not have to be all-or-nothing. We've seen models sliced-and-diced successfully in many ways, such as outsourcing level two and three engineering support while retaining first level service desk and Network Operations Centre (NOC) in-house. In other cases, you may have no option but to retain services. For example, services that support very high value functions – such as financial trading systems – might prove impossible to outsource as they involve contracting for service levels and penalties that would be unacceptable to most service providers.

Create an independent sourcing organisation.

Independent sourcing is another mechanism for ensuring value-for-money. It seeks to ensure that an outsourcer does not procure all services from itself, and involves bringing together employees of the outsourcer and your organisation into an independent sourcing team that operates within strict selection parameters for service procurement and is subject to audit. The NSI team is organisationally firewalled from the outsourcer parent organisation, and will only source services from the parent if it makes sense for pricing, performance, operational and risk management reasons.

Applying these strategies and tactics intelligently can make a big difference. For example, we integrated the communications infrastructure across **2,000 sites in 130 countries** for a **leading consumer goods manufacturer**, reducing network costs by **27 per cent** and service costs by **25 per cent**. For a retail bank, we reduced the impact of network unavailability on employee productivity by more than **70 per cent**.

Conclusion.

We started this paper by reflecting on the importance and difficulty of maintaining the optimum NSI model for your business.

Every organisation faces its own specific set of goals and constraints which make it challenging to find an off-the-peg way of delivering improved business value and reduced costs.

Our NSI methodology and framework, underpinned by a global team of experienced specialists, offers an intelligent and tailored approach to addressing these issues, and selecting the right strategies and tactics for you.

We offer an initial rapid due diligence and discovery package, which you may find useful to model the potential commercial and operational benefits, as well as establishing an operational framework across retained functions and third-party providers to meet your performance service levels.

The stakes are high, and the relationship between your business processes and the underlying network is intimate. Any interruption to the flow of information across your network will quickly impact business performance. As your organisation moves its applications to the cloud and moves to build hybrid network and IT environments, the cloud also brings a new layer of complexity to already-complicated IT solution stacks. You need safe hands to guide you on your journey through the NSI maze.



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