NODE4
enabling business to do business

# Colocation, Cloud and Managed Services

# About Node4

At Node4 our growing team of passionate individuals are dedicated to delivering the most effective application of technology to optimise business performance.

Launched in 2004, we have grown rapidly with our comprehensive service offering and the growth in demand for hosted IT and communications from fast growing businesses across the UK.

Node4 is a Cloud, Data Centre and Communications specialist that is dedicated to serving its customers to ensure that they benefit from the most effective and flexible application of technology. Node4 has achieved great success and growth based on its focussed customer service, market leading customer retention and comprehensive service offering.

In addition to office locations in London, Reading and Newark, Node4 owns and manages Data Centres located in Derby, Leeds, and Northampton as well as having dedicated space in a Slough Data Centre. The Data Centres are connected using Node4's national fibre network, which includes points of presence in Manchester and London as well as interconnects to major UK carriers and was recently upgraded with a multi-million pound installation of a DWDM network. Using this infrastructure Node4's offerings include Cloud, Colocation, Connectivity, SIP and hosted Unified Communications.

We believe in flexibility because everyone is different and we view our customers as partners, working with you aiming for the best customer experience.

# The best of all worlds

Node4 provides enterprise-grade Cloud and Colocation services that enable your business to do business. We own and operate multiple UK Data Centres in which we can host your applications. We own the Data Centres and network, and together with our strong vendor relationships and expert technical staff, you can rely on one provider with visibility and control over all the moving parts. We are also expert at deploying applications onto public cloud platforms such as Amazon Web Services and Microsoft Azure.

Node4 makes huge investments in innovation, so we can empower you to do more with your IT budget. Our sophisticated technology and industry experts help you to achieve a measurable value in your IT projects and provide platforms that your business can rely upon.

With Node4, you can achieve a true hybrid cloud – where your solution workloads are distributed on the right platform for each requirement. We can help you to sweat existing investments and transform your business at a pace that is right for you. Depending on your business requirement, choose the type of platform that best suits your needs.

Come and see what we can do in our purpose-built demonstration facility.

## Colocation

**Your equipment in Node4 Data Centres.**

Your equipment in our secure and resilient Data Centres. Reduce cost and complexity while keeping your investment safe and secure.

- Sweat your existing investment
- Use our expert, on-site team as remote hands and eyes – rather than waiting for your team to get to site
- Tight security in ISO27001 accredited Data Centres that are manned 24 hours a day, 7 days a week

## N4Cloud (Dedicated compute)

**Your workload on dedicated compute hardware but using shared storage and networking.**

Compute hardware dedicated to you and hosted within one of our state-of-the art Data Centres.

- Self-service web portal to create and amend your platform
- Free your IT team to work on strategic projects
- Cost effective compute for bigger environments alongside commercial flexibility for storage and networks
- Invest in capital equipment
- Use perpetual software licenses
- Use tools that don't support multi-tenancy

## N4Cloud (Shared compute)

**Your workload on shared compute hardware, storage and networking.**

Pay-as-you-go server, storage and networking.

- Self-service web portal to create/amend your platform
- Pay OPEX for projects instead of buying hardware
- Remove headache of procuring hardware
- Easy, fast setup of new projects to get to business value quicker
- Free your IT team to work on strategic projects
- Cost-effective model for peaks in project demand

## Public Cloud (AWS/Azure)

**Your workload on Amazon Web Services (AWS) or Microsoft Azure.**

- Cost-effective model for workloads that experience large peaks in demand
- Deploy services across multiple global regions
- Benefit from integration into existing developer tools
- Benefit from Node4's expertise in designing and managing solutions on these platforms

# Node4 Data Centres

Node4 own and operate three state of the art, purpose built Data Centres in which we provide cloud and colocation services over our MPLS network.

In recent years, Data Centres have become increasingly important to businesses of all sizes as a higher volume of customers choose to host their servers with a provider in a purpose built facility rather than investing in their own. Our on-site support and 'remote hands' services for colocation customers make it possible to perform physical tasks immediately on your hardware without leaving your desk.

With a national Data Centre presence, we have sites in Derby, Leeds and Northampton totalling 60,500 sq ft and housing 1,500 racks. All of our sites offer high specification and resiliency in cooling, power and connectivity. Furthermore, our sites are robustly connected within our national MPLS network which is built upon our own DWDM infrastructure.

## Derby

| Capacity | Security | Power | Environment | Connectivity | Services |
|---|---|---|---|---|---|
| • 6,500 ft$^2$<br>• 330 Racks<br>• 4 Data Halls | • Perimeter Fencing<br>• CCTV<br>• Photo ID<br>• 24/7 Manned Security<br>• ISO27001 | • 2.5 MVA Power<br>• N+1 Generator Backup<br>• N+1 UPS<br>• Full concurrent maintainability | • N+1 DX Cooling Air Conditioning<br>• FM200 Fire Suppression<br>• Full concurrent maintainability | • Dedicated Internet<br>• MPLS (PoP)<br>• DWDM | • Onsite Support Team<br>• Remote Hands and Eyes<br>• Managed Services Cabling |

## Leeds

| Capacity | Security | Power | Environment | Connectivity | Services |
|---|---|---|---|---|---|
| • 13,000 ft² | • Perimeter Fencing | • 3.3MVA Power, Dual Transformers | • N+N Water Cooled Chillers with N+N Air Handlers | • Dedicated Internet | • Onsite Support Team |
| • 450 Racks | • CCTV | • N+1 Generator Backup | • FM200 VESDA Plus VESDA Detection | • MPLS (PoP) | • Remote Hands and Eyes |
| • 4 Data Halls | • Photo ID | • N+N UPS | • Full concurrent maintainability | • DWDM | • Managed Services Cabling |
| | • 24/7 Manned Security | • Full concurrent maintainability | | | |
| | • Anti-Tailgaiting Pod | | | | |
| | • ISO27001 | | | | |

## Northampton

| Capacity | Security | Power | Environment | Connectivity | Services |
|---|---|---|---|---|---|
| • 41,000 ft² | • Perimeter Fencing | • 4.0 MVA Power, Quad transformers | • N+2 Water Cooled Chillers with N+N Air Handlers | • Dedicated Internet | • Onsite Support Team |
| • 720 Racks | • CCTV | • N+1 Generator Backup | • IG55 Argon/ Nitrogen Plus VESDA Detection | • MPLS (PoP) | • Remote Hands and Eyes |
| • 4 Data Halls | • Photo ID | • N+N UPS | • Full concurrent maintainability | | • Managed Services Cabling |
| | • 24/7 Manned Security | • Full concurrent maintainability | | | |
| | • Anti Tailgaiting Pod | | | | |
| | • ISO27001 | | | | |

# Colocation

Node4 colocation services offer a secure and resilient hosting environment in which to operate your existing IT investments. As we build, own and manage our Data Centres we have the control to create the exact environment you need – taking into account security isolation (including cages), connectivity requirements, space, power and cooling.

Our ISO27001 accredited Data Centres are manned 24 hours a day, 7 days a week and our expert on-site engineers can provide remote hands and eyes.

## On-Premise Private Clouds

Node4 understand that there are some circumstances in which an on-premises hosting platform is required. However, custom built solutions from multiple vendors can often create significant complexity and management overhead.

The FlexPod solution from Cisco, VMware and NetApp provides a highly scalable combination of servers, switches and storage that are pre-certified to work together.

Node4 has significant experience in the design, install and support of the FlexPod technology in customer premises around the world. Your data can be replicated to shared storage in Node4 Data Centres to protect you against incidents affecting your sites.

# Data protection for other clouds

Node4 can protect almost all of your data and workloads, even if they are not stored in our Data Centres. Reduce the cost and operational burden of data protection through the capabilities of our cloud platform:

## Disaster Recovery Replication

Enterprise-class Disaster Recovery software to perform replication of virtual machines running on your own VMware environment (in colocation or on-premises) to N4Cloud.

A Recovery Point Objective (RPO) of seconds allows you to recover the most up-to-date changes in your data.

Five day journaling offers a low Recovery Time Objective (RTO) allowing you to rapidly recover your most business critical data and applications to multiple points in time.

## Self-Service Backup and Recovery

**Protect data stored at your premises or in Node4 colocation using Node4's powerful yet simple backup technologies:**

- Use Node4 as a CloudConnect repository for your existing Veeam backup infrastructure, transferring backups to Node4 over the internet;

- Backup your on-premise servers to Node4 Data Centres via the Internet;

- Use Node4 storage as a cost-effective target for replication from your NetApp storage.

All backups are stored efficiently on cost-effective storage at Node4 Data Centres.

# N4Cloud platform

N4Cloud is a highly resilient virtualisation platform delivered from three Node4 Data Centres. We are able to offer shared compute, dedicated compute or a mix of both to meet your business requirements.

N4Cloud allows you to pay for your capacity on an operating expense (OPEX) basis meaning you can benefit from the latest technologies without making significant capital investment.

Node4 design, build and operate the platform up to the hypervisor level, allowing your team to focus on managing your applications. The platform is designed for high availability and maintenance following strict change control processes. Constant monitoring of our infrastructure platforms enables immediate proactive or remedial actions as and when appropriate in order to minimise disruption or down time to you.

Our easy-to-use cloud portal allows you to provision, consume and manage your virtual machines and storage. You have the choice to use your own technical teams to manage your servers or alternatively use our Managed Services options.

N4Cloud is based on enterprise-grade Cisco UCS hardware, the market leading VMware vSphere hypervisor and enterprise grade NetApp storage with a choice of performance tiers ranging from an extreme-performance all-flash (SSD) to a simple per gigabyte, per month option.

## Our feature rich solution offers:

- Sophisticated self-service portal, secured with multi-factor authentication;
- Agentless virtual machine backup with self-service recovery. Our cutting edge technology removes the performance overhead of backup from the hypervisor, alleviating the constraints of a traditional backup window;
- Anti-virus agent included with every virtual machine;
- Optional Disaster Recovery replication between Node4 Data Centres.

# Managed Services

Node4 has a highly skilled and accredited team of technical professionals with extensive experience in the design, build and operation of IT platforms. We can provide a range of Managed Services regardless of whether your workload is hosted in colocation, on N4Cloud or on private cloud platforms.

We can help you to design, build and operate your new and existing IT platforms.

## DESIGN

Node4 work with you to design a solution that will meet your business requirements. Our capabilities can help you audit existing environments and validate designs.

**We can offer:**

✓ Solution Design
✓ Strategy Sessions
✓ Performance Audit
✓ General IT Audit
✓ Feasibility Studies
✓ Cost Forecasting

## BUILD

Node4 undertake the installation, configuration and testing of a technical solution. We project manage and document the build.

**We can offer:**

✓ Solution build
✓ Seeding/import of data and virtual machines
✓ Software installation
✓ Software configuration
✓ Load testing & analysis
✓ Migration services
✓ Storage platform migration
✓ Setup of customised monitoring
✓ On-boarding
✓ Software upgrades
✓ Project management

## OPERATE

Node4 can perform management activities for your virtual machines on N4Cloud. You can choose the level that is right for each of your requirements. Levels are cumulative, meaning that Level 4 includes all of the activities listed in Levels 1, 2 and 3:

### Level 1: Managed Infrastructure

For businesses who have domain expertise and require only the managed infrastructure. Node4 will provide:

✓ Reactive monitoring and troubleshooting of node4 infrastructure up to hypervisor level

### Level 2: Managed Platform

For businesses who wish Node4 experts to assist in maximising uptime, security and resilience. Node4 will provide:

✓ Proactive monitoring of operating system metrics and critical services
✓ Operating system patching
✓ Operating system troubleshooting / issue resolution
✓ Implementing operating system configuration changes
✓ Object level recovery of application data in virtual machines
✓ Invoking disaster recovery when requested, plus one annual test

### Level 3: Managed Application Platform

For businesses who wish Node4 experts to assist in maximising uptime, security and resilience of core applications. As part of a bespoke agreement, Node4 will provide:

✓ Management of database & web server software
✓ Quarterly capacity planning
✓ Security assessments and counter-measures

### Level 4: Dev/Ops Application Management

For businesses that require application automation and repeatability for Linux platforms, utilising best of breed tools and expertise. As part of a bespoke agreement, Node4 will provide:

✓ Automated configuration management
✓ Managed code deployment
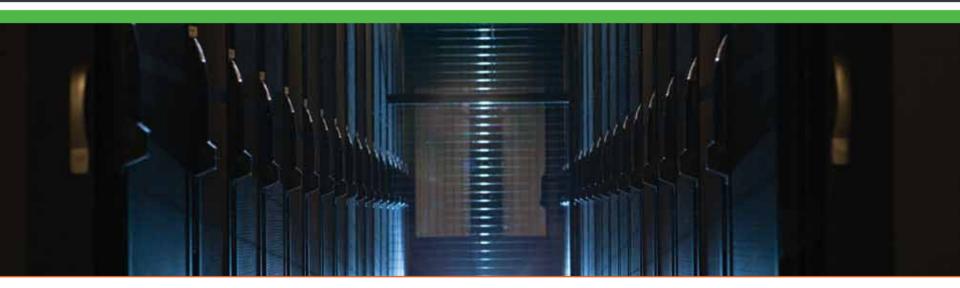✓ Application performance guidance
✓ Application monitoring