

## **Building the foundations of an Industry 4.0 ready network**

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The first industrial revolution was based on the use of steam to power machines. The second centred on the use of electricity to supply energy to assembly lines. The third came about with the use of electronics and IT to further automate production. But all of that is in the past. We are now in the midst of the fourth industrial revolution, known as [Industry 4.0](#), in which the Internet of Things (IoT) is set to overhaul not only business, but also every aspect of modern life. From [cars](#), [washing machines](#), and even [clothing](#), to heart monitors and dams, anything and everything will soon be connected.

As a result, the Industry 4.0 phenomenon is expected to revolutionise all areas within the manufacturing space, connecting all the elements that take part in the production process within the industrial environment: machines, products, systems, and people. The IoT will make today's organisations more competitive by enabling them to further automate manufacturing processes, and collect and analyse data which they can then use to tailor their products to specific client needs.

In order to get the most out of this agile transformation, today's companies will not only need to embrace the cloud. They will need to invest in a robust data security environment, and analyse their existing IT infrastructure to ensure it meets their IoT needs. Ensuring their network, branch and remote sites have a strong foundation and that they have in place a solid visibility strategy is the best place to start.

### **Taking a good look at network architectures**

Organisations can only implement digital technologies successfully if their network is flexible and agile. This might be easier said than done, as smart factories – where there is an increasing number of connected objects creating billions of new end points, and transmitting information and interacting with applications – [are already struggling to stay in control](#) of inflexible, complex networks.

Many are storing information in the cloud as well as on local systems –

generating what are known as hybrid environments – putting an incredible strain on the network, which traditional networking technologies are not designed to handle.

In response, many organisations are taking a new approach and are opting for the use of Software-Defined-WAN, or SD-WAN networks, which offer them the ability to make on-the-fly adjustments to their network's performance and application delivery, and meet the business' ever-changing needs. SD-WAN also enables organisations to direct traffic and deploy network services across a WAN from a centralised location. Ultimately, this translates into reduced costs and operational complexity; and increased optimisation to deliver superior-performing apps and experiences to users.

### **Addressing issues in the branch**

At the core of any manufacturing business are branch offices and manufacturing sites. Often operating as independent data centres which are difficult to support and protect, these sites often fall victim to services outages and data loss which lead to a range of productivity issues including assembly-line stoppage, missed sales opportunities, customer churn, and ultimately, lost revenues.

Getting these remote sites up and running requires significant IT investments. In fact, Riverbed found that branch offices represent [50 per cent](#) of an average company's total IT budget. However, with half of today's IT organisations using outdated methods of operation, businesses are finding it difficult to address pain points that impact overall business agility and performance. New IT services take longer to provision. Data loss is a greater threat when it's stored outside the secure data centre. And, when something goes wrong, it's difficult to recover data and restore business operations.

As an alternative, implementing technologies designed specifically for the management of branch IT allows organisations' IT teams to virtualise and consolidate 100 per cent of data and servers from remote sites into data centres, centralising data security and IT management without losing the benefits of running branch services locally. Additionally, new tools offer instant provisioning and recovery, providing complete security and

visibility into the network, improving data security, business continuity, agility, and operational efficiency – the foundations of a solid transformation.

### **Paving the way for optimal performance**

Industry 4.0 is set to change the way industries produce and consume products, boosting manufacturers' productivity worldwide. However, with apps, devices, and data anywhere and everywhere, it will also bring increased complexity across networks. There will necessarily be an increasing number of blind spots in the application delivery chain which could ultimately affect product delivery processes and companies' bottom lines.

As organisations begin to embrace the cloud, establishing the ability to deploy new apps and services on-the-fly – as well as get new sites up and running quickly – are essential to ensuring the level of agility and performance digital transformation demands. Delivering great app and network performance is one of the keys to doing this, as well as to succeeding in an increasingly competitive and changing marketplace.