exa networks
advanced business internet

Energy

We know that if your internet connection is unreliable, unstable or of insufficient capability, the SCADA Telemetry will be unable to leave the control centre of the operation. This can result in the generators being shut down.
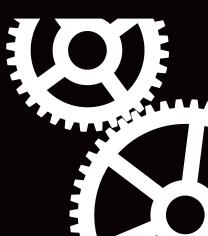
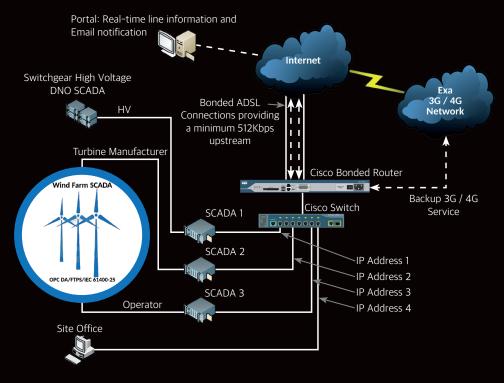Boasting a network uptime of 100% in 2015, we keep you online, all the time.

As an ISP with our own national infrastructure, the network we use is our own, so we can ensure end-to-end service quality.

But, we cannot foresee every eventuality. A 3G/4G back-up service provides automatic fail-over and fail-back whilst retaining the IP range of your devices, meaning that there is no interruption to your service and there is no need for an engineer visit to site.

Why settle for less?

RELIABLE

INTRODUCTION

Data transfer and SCADA Telemetry is essential in today's Renewable Energy sector.

Exa Networks have been working with SCADA Telemetry for years and know the importance of a robust system. We offer several options for all sizes of renewable energy companies.

Your Internet Service Provider should be one of your most valuable business partners.

Speak to us today to find out why.

Portal: Real-time line information and Email notification

Internet

Switchgear High Voltage DNO SCADA

HV

Exa 3G / 4G Network

Bonded ADSL Connections providing a minimum 512Kbps upstream

Turbine Manufacturer

Cisco Bonded Router

Wind Farm SCADA

OPC DA/FTPS/IEC 61400-25

Backup 3G / 4G Service

SCADA 1

Cisco Switch

SCADA 2

IP Address 1
IP Address 2
IP Address 3
IP Address 4

SCADA 3

Operator

Site Office

SOLUTIONS

The above diagram depicts a typical solution we would provide in a wind farm example with up to 20 wind turbines.

Fibre connections are ideally used, however, due to the remote locations of the turbines, this option is often unavailable. As an alternative; up to three ADSL connections can be bonded together to provide a minimum uplink speed of 768Kbps.

A managed Cisco router and switch provide the highest levels of performance and reliability as well as additional benefits and features such as automatic fail-over and fail-back. The 3G / 4G backup service also covers any primary connection failure.
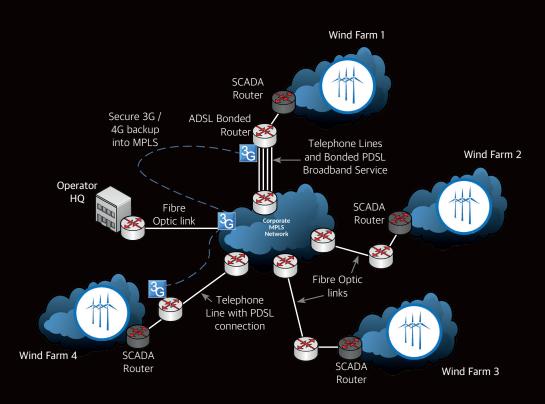
Up to seven SCADA systems within the wind farm can be connected using this solution. A range of 8 or 16 public IP addresses is assigned to the router so that each SCADA has its own public IP address.
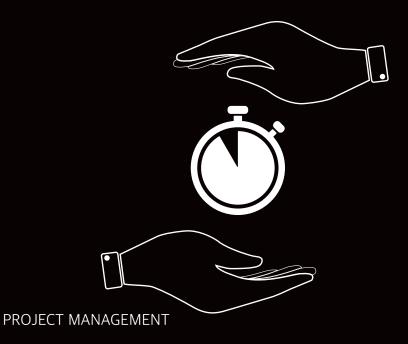
Some wind farms, including those owned by international operators, have a preference or legal requirement to keep data completely secure, this is achieved by ensuring that all IP connections are not connected to the public domain or internet.

Below demonstrates how we can design, engineer and deliver solutions for corporate MPLS networks, and even deliver fully managed MPLS networks where required. There is no limit to the number of turbines we can connect together in this setup.

This solution can be delivered beyond the UK shores to wind farms situated in mainland Europe.

CORPORATE NETWORKS

Wind Farm 1

SCADA Router

Secure 3G / 4G backup into MPLS

ADSL Bonded Router

Telephone Lines and Bonded PDSL Broadband Service

Wind Farm 2

Operator HQ

Fibre Optic link

Corporate MPLS Network

SCADA Router

Fibre Optic links

Telephone Line with PDSL connection

Wind Farm 4

SCADA Router

SCADA Router

Wind Farm 3

PROJECT MANAGEMENT

Renewable energy companies are under tremendous pressure to meet tight operational deadline dates. Even if a project slips by a matter of days it can incur thousands of pounds in fee's.
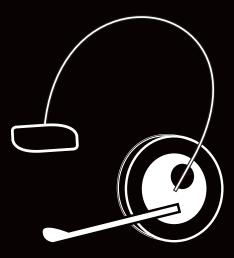
Traditionally, an ISP cannot provide IP address details until all construction is complete and Internet connections have been laid. At Exa, we can provide you with the IP address and sub net masks from the moment the order has been placed, and if the hard-wired connection is not yet in place we can get you up and running on our 3G / 4G connections, meaning you can start trading as soon as your ready without waiting for your ISP.

Why settle for less?

We have received several awards from our governing body, ISPA, not only for our Internet connectivity but also our Customer Service. We also came top of an independent review of Call Answer times undertaken by BroadbandRating.com last year where on average, callers were speaking to a member of our technical team in 9 seconds from dialling! (exa.is/best).

Our first line technical support team have years of experience in the industry and can not only diagnose, but resolve your issues without the need to be transferred or called back.

SUPPORT

- Ultra reliable connections
- Up & running when you need
- Network solutions for every configuration
- Expedited line orders
- Support every step of the way

Why settle for less?

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