



The Ultimate Guide to The Fastest Internet for Your Rural Alberta Oil & Gas Businesses

www.mcsnet.ca

Contents

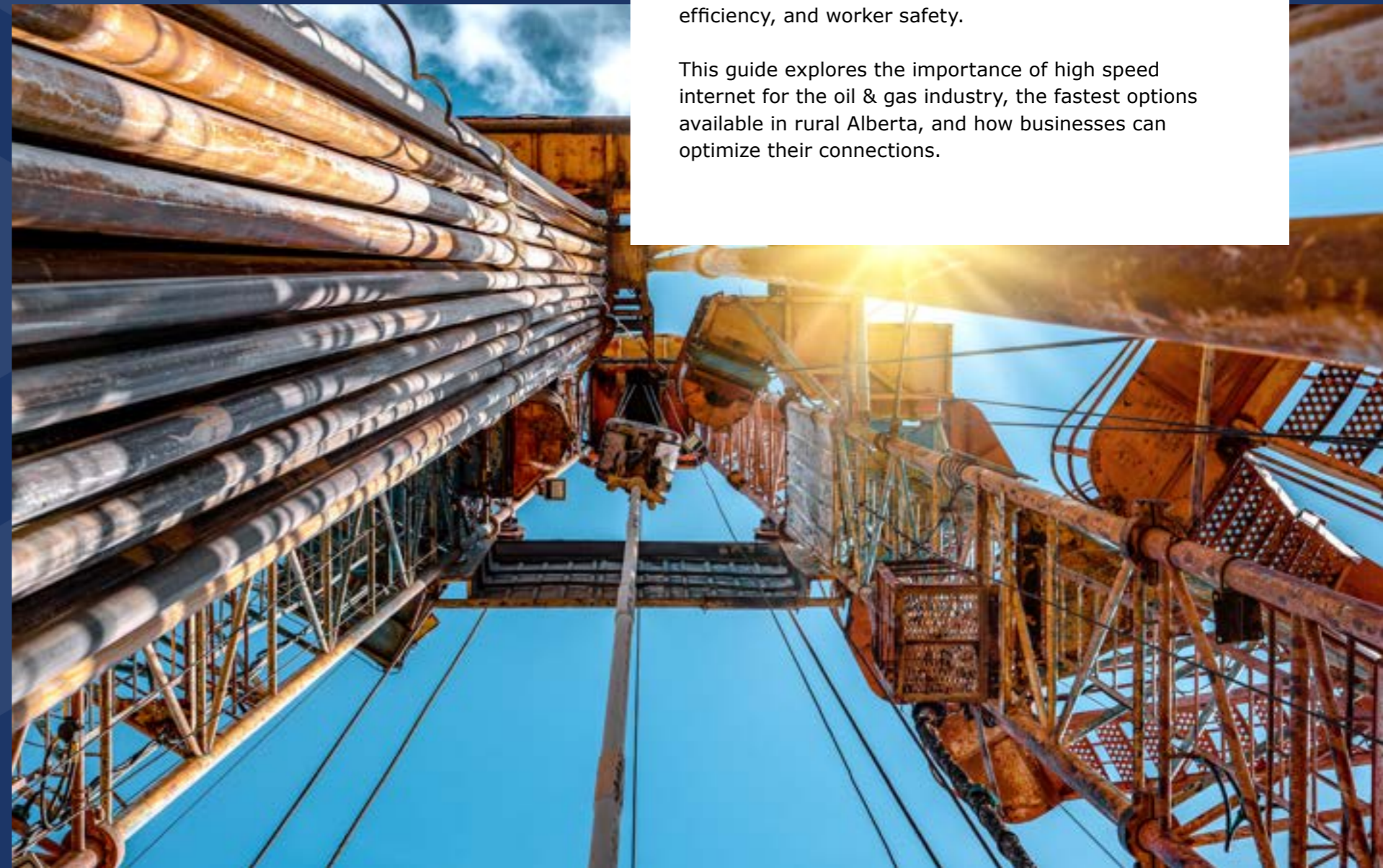
- 01 Understanding the Importance of Optimized Internet Speed for Rural Oil & Gas Businesses
- 02 Maximizing Bandwidth for Critical Rural Business Applications
- 03 Implementing Data Backup and Disaster Recovery Strategies
- 04 Ensuring Connectivity During Peak Times for Rural Businesses
- 05 Enhancing Wi-Fi Connectivity
- 06 Network Security Considerations
- 07 Future-Proofing Your Internet Infrastructure
- 08 Case Studies: Rural Oil & Gas Businesses Optimizing Internet Speed with MCSnet

Introduction

High-speed internet services reduce the digital divide between urban and rural areas. For rural oil & gas businesses, fast and reliable connectivity is more than a convenience — it can have a profound impact on profit and performance.

In addition to reliable data transfers and backups, high speed internet enhances processes, productivity, efficiency, and worker safety.

This guide explores the importance of high speed internet for the oil & gas industry, the fastest options available in rural Alberta, and how businesses can optimize their connections.



Understanding the Importance of Optimized Internet Speed for Rural Oil & Gas Businesses

01

High-speed internet has become essential to Alberta's oil & gas industry. With teams, assets, and facilities often at great distances from each other, reliable internet access ensures that everyone and everything stays connected.

INCREASED PRODUCTIVITY

Access to high-speed internet makes it possible for workers to reach online resources and services that boost productivity — like cloud-based applications and collaboration tools. With instant access to the tools and information they need, workers are better-enabled to perform their roles.

ENHANCED COMMUNICATION

When office workers, site crews, and vehicle operators are in constant contact, businesses can maximize information sharing across the organization. Real-time data access can also create a safer and more secure work environment by improving workflows, limiting safety incidents, and enabling faster responses.

SUPPORT FOR REMOTE WORK

High-speed wireless connections enable mobility for workers who travel site-to-site. It can also save time and costs by enabling remote operation and monitoring. Internet-connected infrared cameras, for example, can automatically detect and report leaks within minutes, allowing remote operators to view the situation, respond quickly, and minimize losses.



When it comes to getting connected and staying connected, rural oil & gas businesses face unique operational challenges that can impact productivity and potential growth.

LIMITED INFRASTRUCTURE

Population density is a key driver of infrastructure projects, often leaving rural areas underserved. For rural oil & gas businesses, this can mean limited access to high-speed internet options. Slower speeds hinder their ability to adopt online tools and services that would streamline operation and enhance productivity.

CONNECTIVITY INTERRUPTIONS

Unreliable internet connections are prone to service disruptions. Outages, however brief, can affect everything from data transfers and transaction processing, to communicating with clients and remote workers. Reliable connectivity is vital to 24/7 monitoring of remote sites, and to ensuring worker safety.

COST CONSIDERATIONS

Upgrading to high-speed internet — or investing in new infrastructure — can be cost-prohibitive for small to medium rural businesses. Government funding and partnerships can help to offset these costs and make high-speed internet more attainable in rural areas.

Maximizing Bandwidth for Critical Rural Oil & Gas Business Applications

OVERBURDENED NETWORKS CAN UNDERPERFORM.

By upgrading to a higher-speed connection — and making more efficient use of that connection — rural oil & gas businesses can maximize the bandwidth available to their business applications.

ASSESS YOUR BUSINESS' OPERATIONS

The internet speed your business needs depends on a number of factors, including the number of users and the applications they need to access. A business with basic needs like video conferencing and data backups might make do with an average internet connection. A business with more users, demanding applications, or outage-related safety concerns will rely on extreme speeds, with no interruptions.

QUALITY OF SERVICE CONFIGURATION

Quality of Service (QoS) technology enables businesses to adjust network traffic and guarantee their ability to run high-priority applications. QoS configurations manage throughput (the rate of data transfer), bandwidth (the maximum rate of data transfer), latency (the delay between packets being sent and arriving), and jitter (variance in latency, resulting in packets arriving out of order).



Implementing Data Backup and Disaster Recovery Strategies

Data loss is always bad for business. In some instances, it can also lead to revenue, reputational damage, and regulatory fines. All of which can be avoided by scheduling regular data backups over a reliable, high-speed connection.

Local Storage involves storing business data on hard drives or servers in your place of business. These are faster to access, but are susceptible to risks like theft and fire.

Cloud Backup Solutions store business data at an off-site location. These services provide a geographical redundancy to local storage, along with automatic backup capabilities.

Network-Attached Storage (NAS) behaves like a cloud solution, while being located on your premises. Data is stored on a local device with its own IP address, and can include automatic backups and media streaming.

In the event of unexpected data loss, it helps to have already conducted disaster recovery planning and testing — the steps businesses will need to take after a disruptive event, to minimize downtime and resume operations.

04



Ensuring Connectivity During Peak Times for Rural Oil & Gas Businesses

PEAK HOURS ARE WHEN THE HIGHEST NUMBER OF USERS ARE ACCESSING THE INTERNET AT THE SAME TIME.

The possibility of network congestion poses a daily risk of low speeds or loss of connectivity, which jeopardizes businesses that rely on the internet for real-time data and time-sensitive tasks.

To improve response times and overall service availability, MCSnet employs techniques like **load balancing**. Network traffic is distributed evenly across many servers, to prevent any one server from becoming a bottleneck during peak hours.

Other measures used to protect connectivity and prevent downtime include redundant systems, proactive maintenance, network monitoring, and detailed disaster recovery plans.

Enhancing Wi-Fi Connectivity

There are many steps a business can take to improve and extend Wi-Fi connectivity at a specific office, facility, or worksite.

Wi-Fi Extenders are devices that are positioned to relay a Wi-Fi signal, so it reaches further from the source. Extenders are simple to set up and — if positioned correctly — can eliminate Wi-Fi dead zones.

Mesh Networks consist of a router and signal repeaters, all tuned to create a unified grid — or “mesh”. Wi-Fi signals automatically travel the fastest route through the network.

Upgrading Wi-Fi Equipment can improve performance, if the current equipment is old or obsolete. Knowing where signals need to reach can help you choose a router suited to the location’s specific needs.

Optimizing Wi-Fi Router Placement can significantly improve speeds. A central location, out in the open provides the best coverage, while solid objects like walls and cupboard doors will interfere with the Wi-Fi signal. Routers should also be distanced from other devices that use electromagnetic waves.

Network Security Considerations

The benefits of robust network security include safeguarding data, preventing unauthorized access and cyberattacks, and avoiding costly downtime. When shopping for internet service that suits the needs of a rural oil & gas business, preference should be given to companies that prioritize security and provide 24/7 monitoring and support.

Business can also employ the following technologies:

Firewalls act as a barrier between trusted internal networks and untrusted external networks. Traffic is allowed through or blocked, based on a set of defined rules.

Intrusion Detection Systems (IDS) monitor networks for malicious behavior and send alerts about potential threats.

Virtual Private Networks (VPNs) are encrypted connections between a user’s device and the business’ network, and provide a secure way for remote workers to access sensitive data — without exposing the data to ISPs or hackers.

Wireless networks are often targeted by hackers, due to their inherent vulnerabilities. Methods used to secure wireless networks include using strong passwords, enabling network encryption, hiding the network’s name (SSID), regularly updating network firmware, limiting the wireless range to the premises, and creating a separate Wi-Fi network for guests.



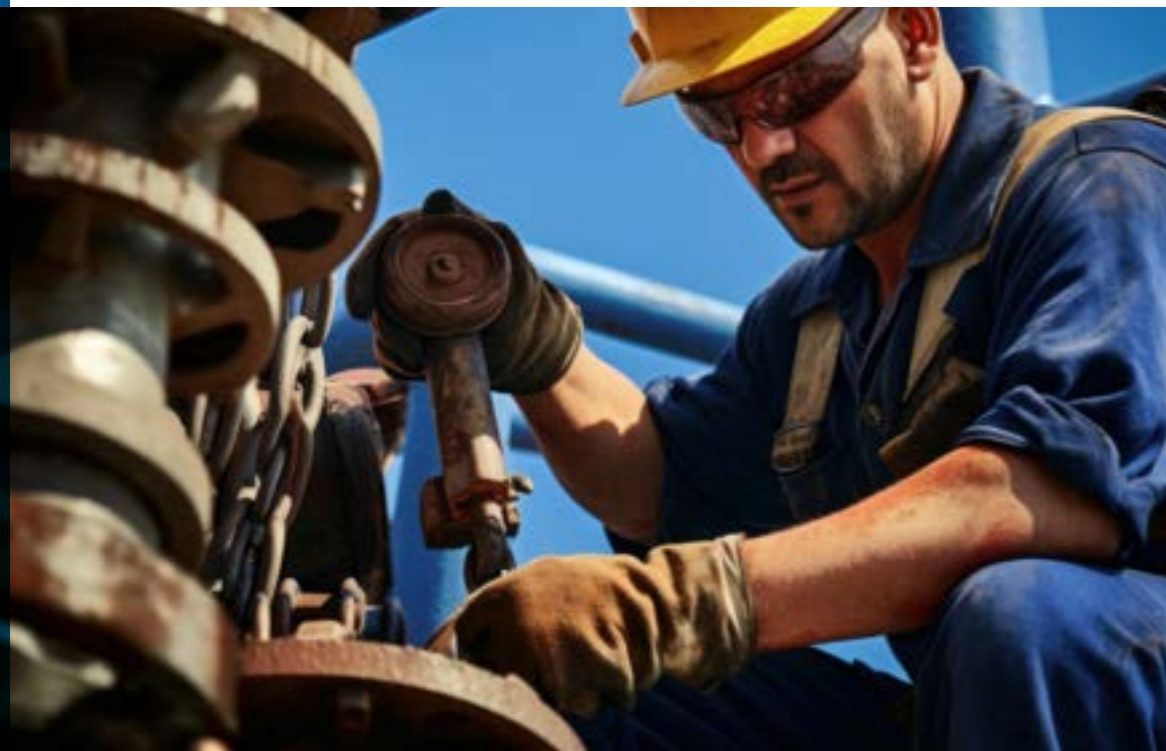
Future-Proofing Your Internet Infrastructure

THE DIGITAL LANDSCAPE CONTINUES TO EVOLVE.

Future-proofing internet infrastructure requires an internet service company like MCSnet to consider emerging demands for resiliency, security, and performance.

Scalability planning anticipates a higher number of future users and data volumes. By planning ahead and making preparations, MCSnet's infrastructure will be able to handle the growth — without compromising performance.

Staying informed about technological advancements enables MCSnet to stay competitive on speed, features, and efficiencies. And, to share that competitive edge with rural businesses, who can leverage ongoing improvements to innovate within their own services and operations.



Case Studies: Rural Oil & Gas Businesses Optimizing Internet Speed With MCSnet

CANADIAN NATURAL RESOURCES LTD. (CNRL)

CNRL is one of the largest oil & gas producers in Canada with significant presence in Northeastern Alberta. From Dedicated PTP connections to simple, wireless residential services, CNRL has relied upon MCSnet's fixed wireless services at 59 of their well site and plant locations. CNRL knows they can rely upon MCSnet to provide rural and remote internet services throughout the oil and gas region in northeastern Alberta.

XTREME OILFIELD TECHNOLOGY LTD. (XTREME)

Serving northern Alberta for more than 20 years, Xtreme provides general and specialized tank desanding, tank cleaning (door pulls), fluid transfers, well loads, and rig work. They also rely on MCSnet to keep them connected at their shop locations in St. Paul, Glendon, and Bonnyville. Xtreme knows that a reliable internet connection is essential for their operations and uses a variety of MCSnet internet services available to them, including Dedicated PTP, GigAir, and basic residential connections.

08



Conclusion

MCSnet provides high-speed internet to over 25,000 customers throughout northeastern Alberta and a small portion of western Saskatchewan, using its own independent, powerful network of towers connected to a fiber optic backbone.

MCSnet has dedicated the past number of years to strengthening its network by adding over 1,600 km of fiber to its tower network for faster speeds, reliability, and scaling for future technologies. Through municipal partnerships, unique solutions — incorporating combinations of Fiber to the Premise (FTTP) builds, GigAir (wireless), Hybrid (FTTP & wireless), Wi-Fi public hotspots, and Transit Fiber — are being designed to fit the needs and budget of each community.

Are you ready to upgrade your internet to higher speeds and more reliable connectivity?



Schedule a consultation with one of our business advisors, or fill out our online form to get started.

PHONE
1-866-390-3928 ext. 3

EMAIL
corporate@mcsnet.ca

WEBSITE
mcsnet.ca/internet/business