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Innovating with Trust, Technology, and Confidence

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We're at a new stage of our evolution. The world has fundamentally changed at an unprecedented pace over just a few decades. Those of us who were alive to see this technical revolution unfold firsthand know that it has been quite a remarkable sight to behold.

Before the technical revolution took place, in the Before Times, there were no mobile phones and no internet, and you needed a single computer that filled an entire room to perform simple math calculations. Today, we have more computing power in our pockets than existed at that time. We have virtually the whole volume of recorded human history at our fingertips or the end of a simple voice prompt. We have also achieved the ability to travel throughout our solar system; teleport photons; decode, edit, and reverse engineer the human genome; and unlock quantum mechanics to create supercomputers that exceed human capabilities and, to some degree, our understanding.

We owe these innovations to our ability to harness and build upon technology. If it were not for the devices, networks, data centers, automation, intelligence, and innovators – none of this would be possible today.

The underlying complexity is mind-boggling. Billions of devices and network elements must be connected, managed, and optimized. Various network-transport technologies must seamlessly integrate and flawlessly hurdle data at the speed of light to data centers where it can be stored, processed, analyzed, and returned to devices and dashboards where humans – and now Artificial Intelligence (AI) – can take meaningful actions.

The complexity and scale test our ability to maintain it all. Assets, such as network elements, routinely get stranded. Inefficiencies lead to increased cost and power consumption. Inaccuracies cause delays, degrade service quality, and ultimately lead to failure. This creates an interesting conundrum. If it took technology and people to make the technical revolution possible, yet it has now exceeded what people can effectively and efficiently manage on their own, how can we continue to innovate?

To solve this problem, it will require, once again, the right people armed with the right technology and experience to build confident solutions that network operators can rely on. But it's going to take

more. It's going to take trust. True collaborations based on relationships encompassing a comprehensive understanding of the network, technologies, and customers' desired business outcomes. These collaborations also need to occur when digital interactions have replaced most social interactions, the future role of humans has been called into question, and when human relationships may have never mattered more. I'm not saying it will be easy, but it's necessary to advance and sustain the next level of innovation from here.

Seeing the Light

I recently had the opportunity to meet with the stakeholders at LightRiver to discuss how they are forging trusted collaborations with their customers to overcome these challenges today. LightRiver provides solutions that enable its customers to discover, analyze, and optimize their networks, and these aren't just any networks. LightRiver's over 150 customers include most of the world's leading hyperscale data centers, cloud providers, service providers, and utilities. For LightRiver and its high-stakes customers, success can be the only outcome.

"Our telecom and cloud customers require 'five-nines' reliability, which means 99.999% network uptime and just over five minutes of downtime per year, which is appropriate for that use case," said Mike Jonas, chief executive officer of LightRiver. "But that's not enough for our utility customers who produce mission-critical energy and power. They often need six-nines network reliability and millisecond accuracy for control for their use case."

That may not seem like a big difference, but it only allows mere seconds of anomalies or downtime per year, a much higher state of network availability and performance. LightRiver's key is understanding its customers' unique needs and building pretested, factory-built networks that perform optimally.

"Every customer is unique," Walt Paskowski, senior vice president of sales and marketing operations at LightRiver, added. "When working with one of our global telecom customers, for example, their objective was more about overcoming massive network complexity to create an efficient, high-performance network." Paskowski went on to explain that – by using LightRiver's NetFLEX, Network Inventory Optimization (nIO), and Prism products – the Tier-1 carrier was able to save over $650M by better utilizing existing and stranded network assets, optimizing circuits, and consolidating hundreds of racks to just dozens to reduce their carbon footprint at the same time.

"Outcomes are defined differently by different customers, too. Some may want to deliver capacity faster. Some may want to deliver more capacity on a schedule. Some may want to shrink their footprint or integrate an acquisition. Some may want to reduce their power consumption. or open a new market ahead of their competition," Jonas added. "The outcome is based on a business dialogue with that customer about what it is that they define as success and truly understanding their needs both now and in the future. It ultimately manifests itself in high-capacity networks, but it's really a result of our people and the strength of our customer relationships." The value LightRiver places on its people and customers is more than hypothetical; it's a tangible methodology embraced by the company and imbued throughout its culture, which they have been honing and putting into practice for nearly 30 years.

Tying Culture to Trust and Innovation

LightRiver has built a culture of trusted customer collaborations based on a methodology it calls TIES (see Figure 1). TIES is an acronym representing four foundational pillars supporting the company's mission: Trust, Innovation, Engineering, and Service. TIES and trust begin with the human element.

"LightRiver's success comes from our ability to select the best talent with the right state of mind, to genuinely partner with our customers," added Jonas. "Our people are our superpower. It's about

creating a customer-orientated culture that's focused on outcomes that make our customers successful, not just checking off boxes in a SOW."

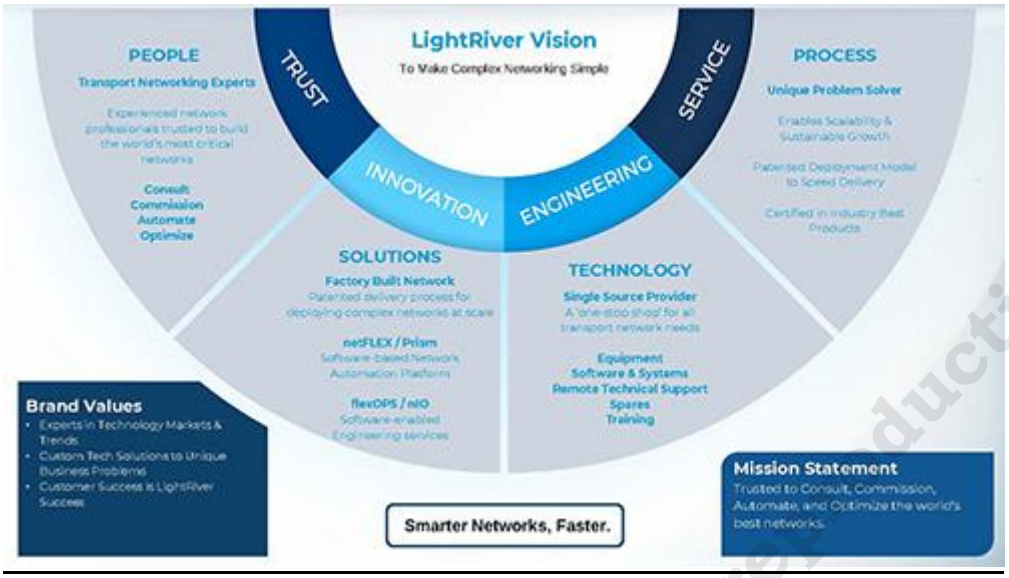

Figure 1 - LightRiver's TIES Methodology
click to enlarge

For LightRiver, this begins by recruiting and retaining the best talent from some of the top engineering schools in the country, including the Rensselaer Polytechnic Institute, Rochester Institute of Technology, Rutgers University, the University of California, and the University of Texas. Jonas cites "passion and grit" as some of the more abstract qualifications they look for in a candidate, but it's also about tangible ability. Candidates often need to demonstrate their ability hands-on in a lab environment, and it ensures every candidate fits their customer-oriented culture through a cross-departmental interview process. After hiring, LightRiver encourages and provides ongoing training and certification through its ACE program, which extends across every department and to the executive level.

"We want to facilitate our people's curiosity and passion for learning," commented Jonas. "Sometimes someone wants to learn more about a technology, someone in sales will want to learn about finance, or someone in finance will want to learn about marketing. You never know what tomorrow will bring, so we provide the tools and programs so they can keep learning."

LightRiver puts people under the first pillar of its TIES program: Trust. But it's only by arming the right people with the best technology can they succeed in their mission to create the world's best networks. The company's cutting-edge products and technology fall under the second pillar, Innovation.

LightRiver's NetFLEX product jumpstarts network optimization with automatic network discovery that combines network inventory data with live network information by communicating directly with network devices in their native language. LightRiver's Prism product (see Figure 2 on next page)uses netFLEX data, and existing vendor NMS T-API feeds to form a single data lake, and provide a single view of the network with an interactive, intelligent interface that enables users to visualize, control, and optimize multi-vendor and multi-generation network infrastructure. LightRiver's nIO product can then be used to analyze the combined data to drive network efficiency in numerous ways such as for identifying hidden spares and underutilized equipment; stranded assets that can be re-purposed, decommissioned or resold; excess bandwidth; circuits that customers may be paying for but no longer need; or assets that might be easier to groom into a more manageable footprint. Think of nIO as an AI optimization engine that knows everything about your network, and all you have to do is ask.

The last two pillars of LightRiver's TIES program are Engineering and Service, which go hand in hand. On the one hand, it's LightRiver's patented process it calls Factory-Built Networks (FBN) where

networks are prebuilt, provisioned and tested in LightRiver's factories so they can be simply shipped and turned on, dramatically accelerating time to market. On the other hand, LightRiver's tech-enabled flexOPS service provides intelligent staff augmentation for its customers to leverage LightRiver's experienced team and software portfolio to maintain and optimize hardware and software, address incompatibilities, and expedite issue resolution. And, of course, TIES is underpinned by LightRiver's unwavering commitment to its customers' success.

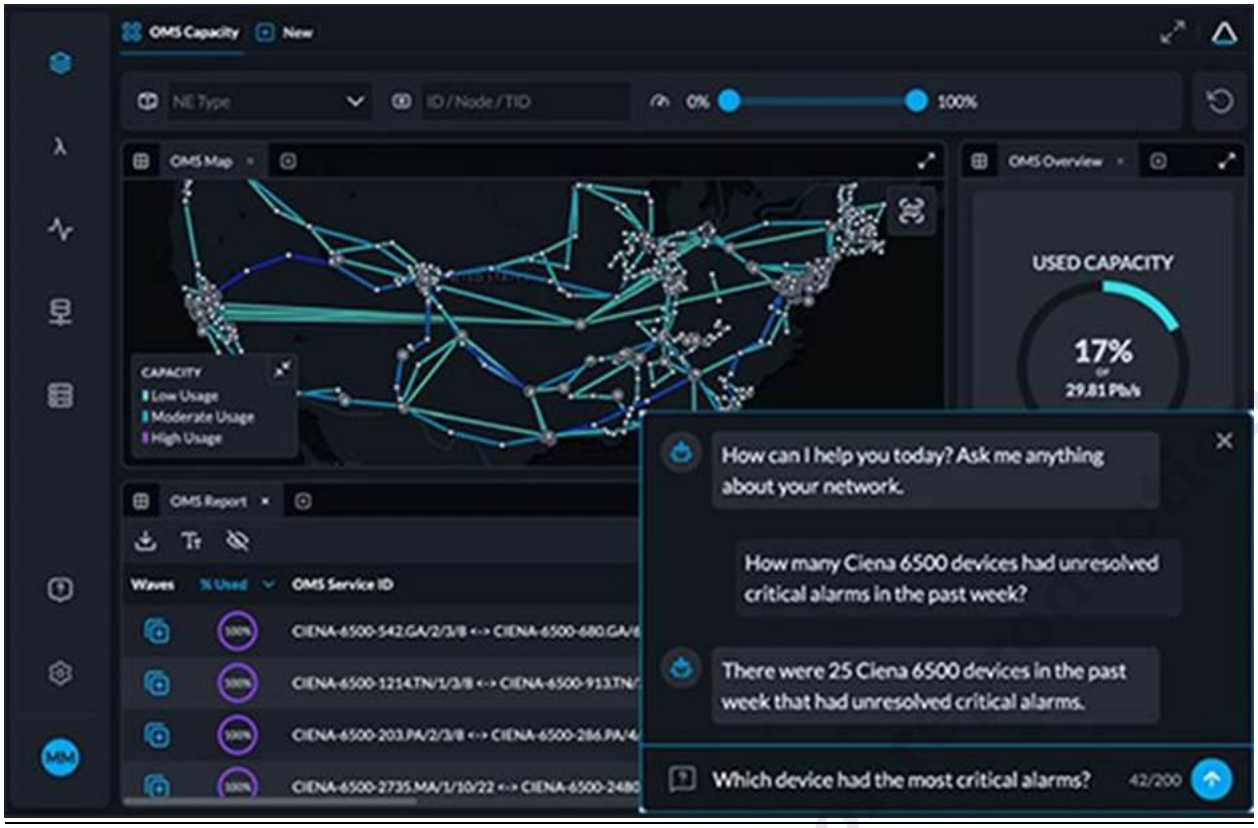

Figure 2 – LightRiver's AI-driven Intelligent Network Management Product
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Innovating with Confidence

The network and connectivity are the foundation of future innovations. The world has changed, and the pace of change is only accelerating. Whether it's keeping up with the growing demands of AI workloads, the exponential growth in devices, ensuring mission-critical network uptime, or providing the computing power necessary for the next great discovery, the network must work.

The scale and complexity are quickly becoming unmanageable. To keep up, a mutual commitment will be required to ensure connectivity is available and delivered with high fidelity. It will take the right people, armed with the right technology, who are mutually committed to the same outcomes.

There are many technology providers to choose from. They've become a bit of a commodity, and picking the best one can be challenging when so many technology products do the same or similar things. Selecting the very best technology partner for you may come down to their people, culture, and commitment to your success. That trust can make all the difference you need. LightRiver appears to be one of the few technology providers with the unique and right mix of technology, people, culture, and commitment to give you the confidence to continue to innovate, optimize, and automate the world's best networks – now and well into the future.