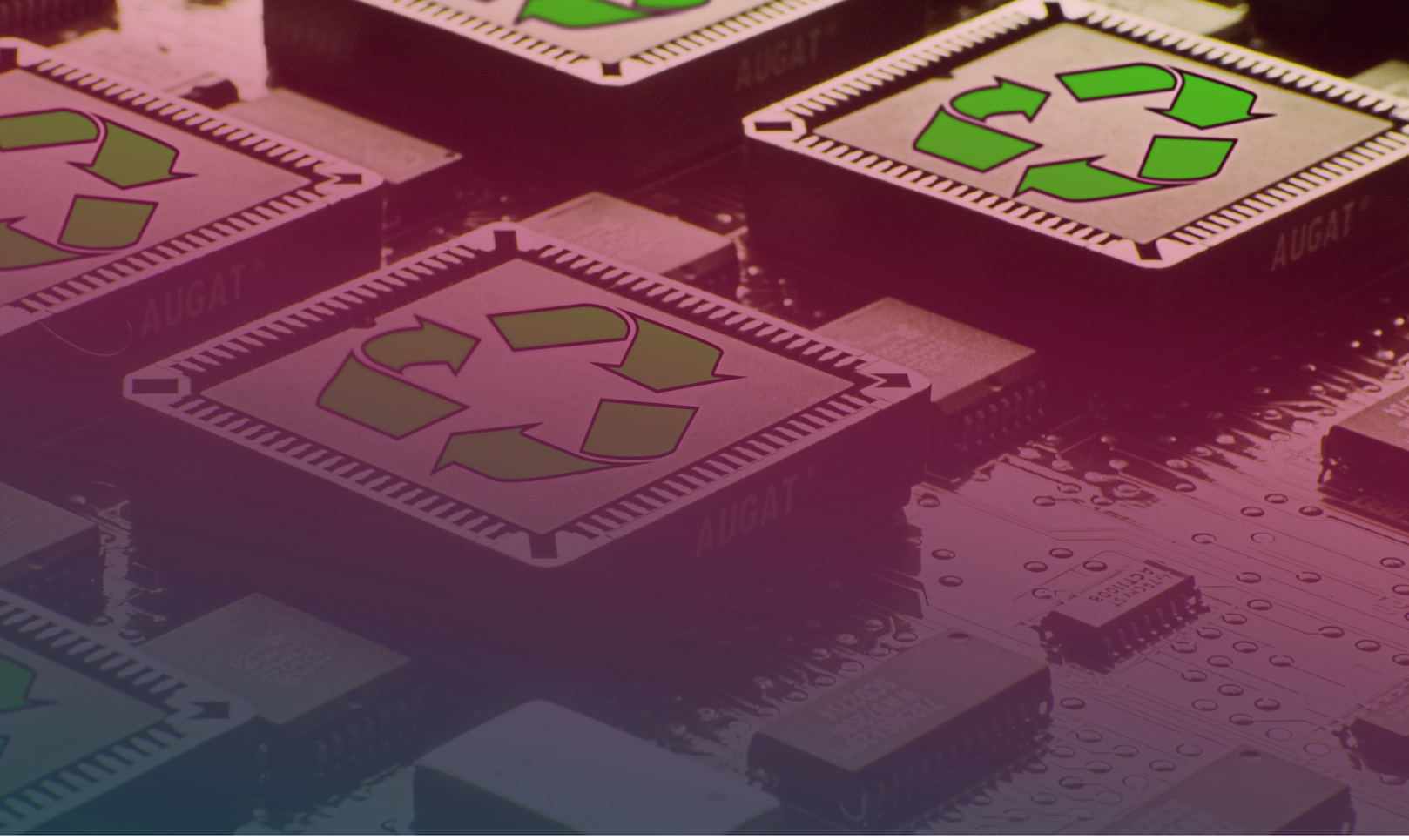

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REUSE OPTIMIZATION STRATEGIES FOR THE TELECOM CARRIER & OEM MARKET

Best Practices for Maximizing the Revenue Potential of Unused, Excess and Decommissioned Assets

Top-level Carrier & OEM Impact Points

- Lack of visibility into unused and excess inventory prevents carriers from maximizing the revenue potential of network assets.
- Providers need to revisit their approach to the aftermarket supply chain in order to optimize operational agility and drive business model innovation.
- Reuse optimization strategies place the greatest emphasis on reuse and resale, thereby improving financial performance and customer service, and ensuring ongoing commitment to environmental business goals.

The rapid change in today's global network environment has had a dramatic impact on the telecom market. In the carrier market, wireless providers face persistent pressure from competitors racing to be first to market with LTE+ & 5G, while the prevalence of mobile devices and the emergence of new online communication tools have not only stunted the growth of wireline

customer bases but eroded revenue streams related to the long distance and international calling markets.

Challenging business circumstances such as these can be an exciting breeding ground for new ideas, innovation and transformational approaches to fundamental business practices. In the face of fierce competition and a frenetic pace of change, carriers & OEMs must ensure go-forward strategies reduce operational expenses and inject greater agility and flexibility into business models.

For many telecom carriers & OEMs, the notion of a proactive, strategic approach to optimizing the reuse of network assets simply doesn't exist. Large quantities of decommissioned network assets, for example, regularly 'go dark,' sliding off the radar screen and essentially becoming worthless to their owners who write them off without seeking to recover any monetary value. Within the operational silos of most carriers, there are no systems in place to facilitate redeployment of excess or retired assets within their broader network.

The persistence of silo'd organizational structures means it's nearly impossible for any level of consolidated visibility of asset flow to emerge. As a result, carriers often find themselves confronted by challenges that range from high inventory costs and an inability to break free of vendor upgrade cycles, to lost revenues due to inadequate provisioning. The institutional chasm that exists between most network operations and finance/procurement departments dissuades the sharing of basic business information, hindering business practices such as stock level forecasting and total cost of ownership (TCO) assessments.

Understanding the Shortcomings of Traditional Reverse Logistics

Carriers & OEMs typically view their decommissioned network assets through the prism of reverse logistics, which is best described as the process of "moving goods away from their usual final destination for the purpose of capturing value or proper disposal." In a traditional reverse logistics model, represented in the form of a pyramid (See figure 1), only a small amount of assets are actually reused, a slightly larger number are sold to de-installers and the vast majority sent to recyclers as scrap or simply shipped off to warehouses without any understanding of their true market value or potential for reuse.

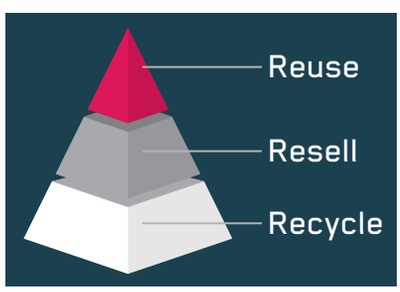

Figure 1: Standard Approach to Equipment Disposition

Operating in a business environment that demands better cost control measures and business model innovation, this approach yields some important questions for carriers about network asset utilization and disposition. Knowing that equipment is spread across various locations, put aside for the moment the more obvious questions such as:

- **Just how many assets are there?**
- **What are they worth?**
- **Where are those assets located?**
- **In what condition are those assets in?**

And consider whether or not there are acceptable answers to the following:

- **Is there a plan to ensure the maximum return for unused assets?**
- **Could these assets be reused within current operations or as part of spares pools? Or in other markets experiencing increased demand/growth?**
- **Are global planning and provisioning processes capable of supporting rising competitive and customer demands?**
- **Are inventory and repair costs spiraling out of control?**

Those are tough questions and the fact is that most carriers wouldn't be satisfied with their answers, which is why the time has come to consider placing greater emphasis on reuse and resale of these assets. With the proper application of market intelligence and technology, it is possible to create greater collaboration – both internally and externally – between network operations and finance/procurement, and convert what are long-standing cost centers into profit centers by inverting the reverse logistics pyramid.

The Environmental and Financial Impact of Reuse Optimization

When you turn the reverse logistics pyramid on its head (See figure 2 below), the greatest point of emphasis is no longer placed on assets going to recycle; instead the majority of assets are now reused with smaller amounts resold and ultimately recycled. This new approach forms the foundation of what Zurich Technology Solutions calls Reuse Optimization, which enables carriers & OEMs to maximize the lifecycle and revenue potential of existing network assets.

Through visibility into stock levels provided by a reuse strategy, carriers & OEMs can make informed business decisions regarding disposition of existing, decommissioned and unused assets within internal service organizations as well as the open market. This promotes business model innovation and greater operational agility through reuse optimization and the creation of new revenue streams, while simultaneously reducing waste.

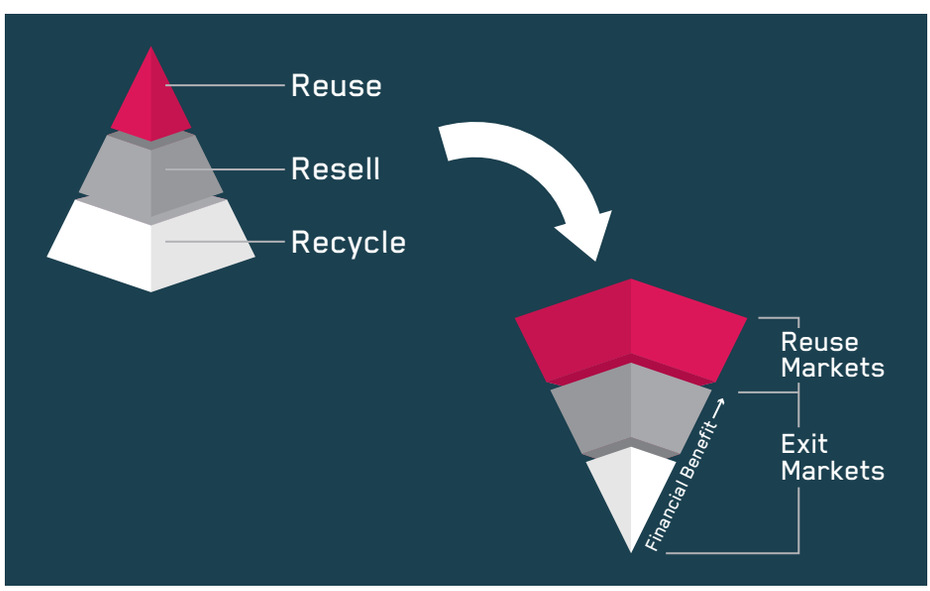

Figure 2: Inverting the Reverse Logistics Pyramid

At the heart of reuse optimization strategies is a normalized, comprehensive view into network assets across the telecommunications 'ecosystem.' This includes visibility into existing inventory of live, spare, and decommissioned assets, as well as available inventory from business partners and the global secondary market. But visibility isn't just about identifying quantity and location.

Visibility attained through a reuse strategy includes specific product information that takes into account part aliases, equivalent component/part replacement options, and compatibility of product revisions. Possessing such a comprehensive level of visibility is the core tenant of reuse optimization. Without it, the challenges inherent in handling and managing network assets simply can't begin to be addressed.

Deriving Value from Reuse Optimization

By providing an unprecedented level of visibility into material inventories in every location, carriers & OEMs can quickly access the information essential to drive more informed inventory, planning, procurement and reuse decisions. Combining market intelligence with sophisticated technology application and outsourced services for logistics and field auditing, telecom carriers & OEMs can:

- **Control costs associated with spares management by reducing the need for 'expedited' replacements through a process of prescriptive dispositioning that redirects decommissioned assets to satisfy stock levels in spares pools and directs excess equipment to resale for maximum asset value recovery;**
- **Dramatically reduce capital-to-revenue ratios with just-in-time inventory management practices;**
- **Extend the revenue potential of existing network equipment through reuse of existing assets;**
- **Recover a greater percentage of the value of assets decommissioned during planned network upgrade cycles; and**
- **Improve the management and value recovery of assets related to industry consolidation, and access to the secondary market.**

Below, figures 3 and 4 demonstrate how a reuse strategy can alter the standard lifecycle and utilization of network assets, thus yielding greater strategic value for carriers & OEMs.

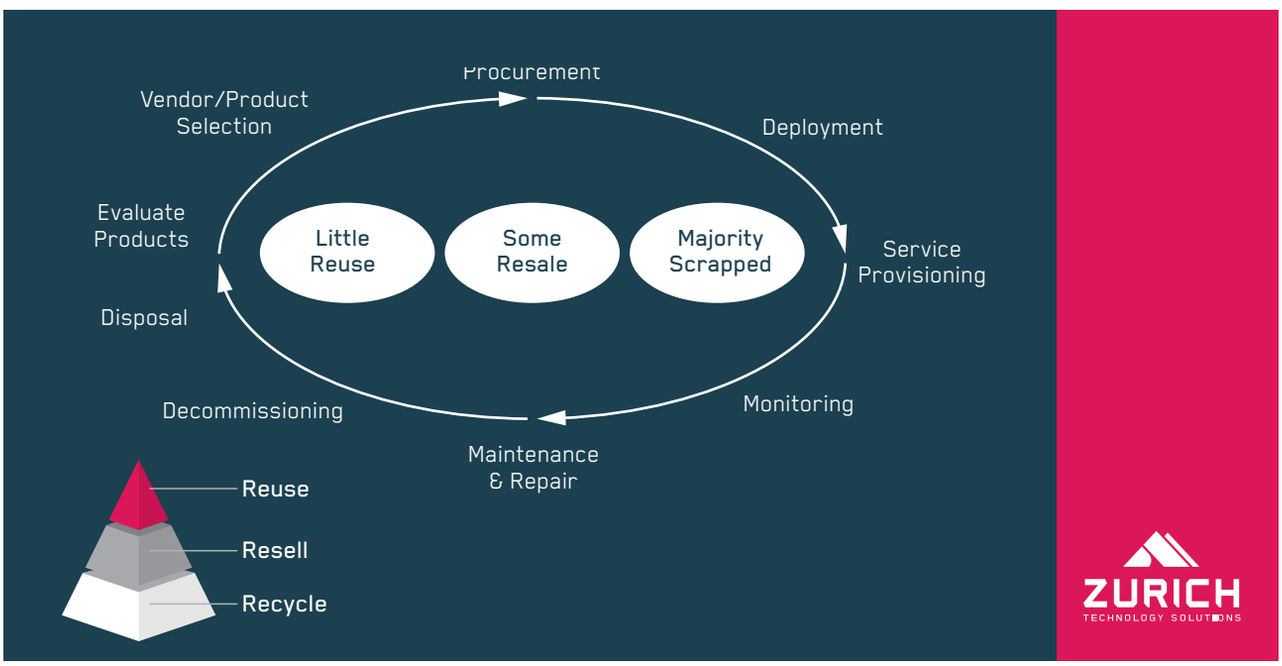

Figure 3: Typical lifecycle of network assets

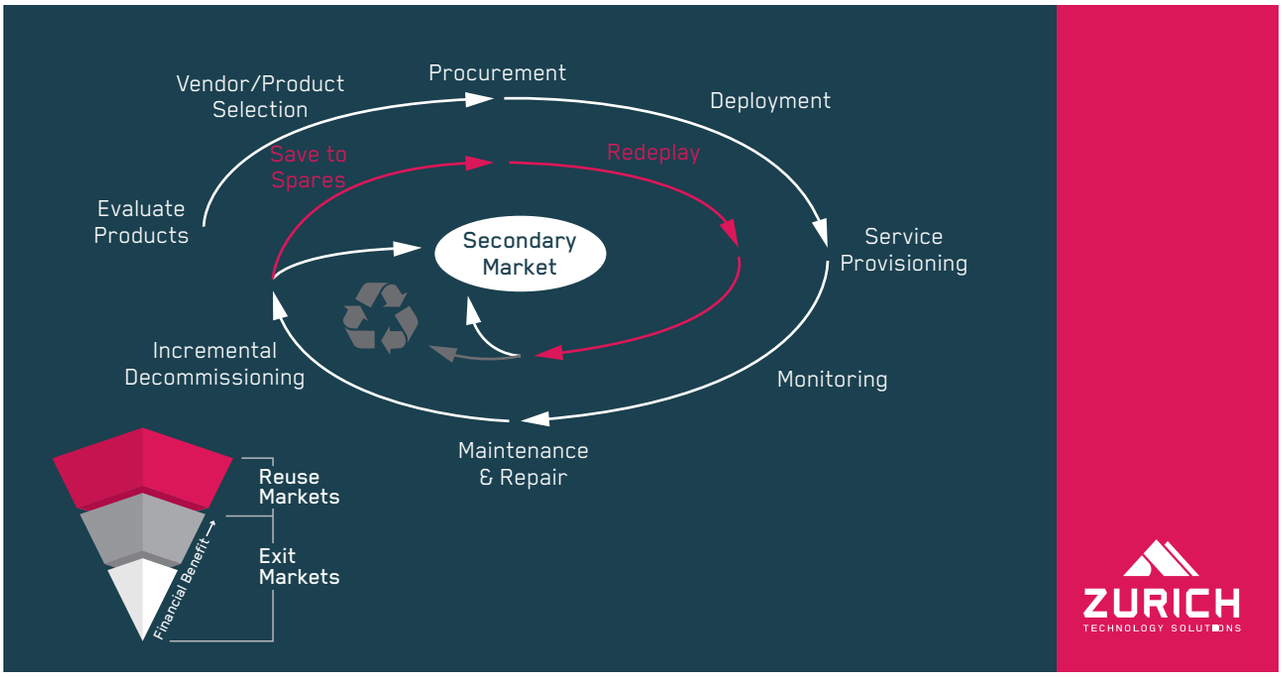

Figure 4: Asset lifecycle based on reuse strategy

Fueling Corporate Sustainability Initiatives

While carriers may not be directly affected by new environmental regulations impacting OEMs, which govern the disposal of electronic equipment in an environmentally-friendly manner, reuse strategies are essential for carriers seeking to operate in a more eco-friendly manner. There is growing expectation for companies to be green, and it is likely that in the near future that commitment to environmental sustainability will factor into a customer's decision-making process. Leveraging a reuse strategy to prolong the lifecycle of existing assets (See figure 4 above) equates to less scrap material, a reduced need for new equipment (lower CapEx), and a decrease in carbon emissions.

Preparing for a Reuse Optimization Strategy

As is the case with any strategic initiative, there are questions every business should ask in order to determine its level of readiness for a reuse strategy. As part the exploratory process, give careful consideration to questions such as:

- **When equipment is decommissioned, how much do you keep in inventory for spares?**
- **Who decides what assets are retained? And at what stock level?**
- **Do you have visibility into the replacement stock available for the newly acquired network(s)?**
- **How frequently are expedites required?**
- **How much do you spend on these expedites annually?**
- **Where do your purchasing forecasts come from?**
- **What inventory/stock levels are those forecasts based upon?**
- **Who handles the disposition of equipment from upgrades/decommission?**

It's Time to Embrace Business Model Innovation

The convergence of a hyper-competitive industry and changing technologies continue to place more pressure than ever before on carriers & OEMs to identify new business models that provide agility and identify new sources of revenue. Long-standing organizational silos and outdated

practices for reusing, reselling and recycling network assets are often ineffective, if not completely ignored. These problems are compounded as carriers scale-up to meet go-forward strategic objectives.

The benefits cited above are typical of what can be achieved when a reuse optimization strategy finds the right balance between technology innovation, market intelligence and industry expertise. In an industry defined in so many ways by constant change, devising a best-practice framework for reuse optimization represents the type of new thinking that can energize business models and drive revenue growth.

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We are founded by established industry network professionals, bringing a rich heritage of success in servicing clients since 2007. Zurich Technology Solutions operates globally distributing Telecom and IT equipment as well as invaluable in-house technical and professional field services.

Our customers attest to our unparalleled delivery and include leading industry Wireless and Wireline Operators, OEMs, IT Cloud Service Providers, Cable Companies, Educational Institutions, Healthcare, Federal and State Governments and Utility companies.

The name Zurich reflects our affinity for iconic Swiss values; mastery of complexity in engineering, impeccable quality in delivery and fearless ascent of the most challenging mountain peaks. We are in this business because we grew up in it and intimately understand the implications of the incredible change our market is going through today. We have assembled the most caring and competent team of industry leaders to help our clients solve the most complex problems they now face.

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