As networks become more complex, network operators must learn to change their modus operandi. Manual processes which are part and parcel of network operations are time consuming, error-prone and ineffective. Comprehensive, timely and dependable analyses are crucial to making informed choices that garner success. ECI’s ELASTIC Analytics, the newest addition to the ELASTIC Network suite of services, enable network operators to make proactive, knowledge-driven choices that keep them ahead of the curve, secure a competitive edge and reduce costs.

**Predictive Maintenance and Multi-Layer Traffic Engineering and Optimization Services**

These truly multivendor services provide network operators with the necessary insights to properly maintain, design and reengineer their networks. ELASTIC Analytics provide predictive support intelligence using advanced analytic algorithms, big data analytics and machine learning. Benefits include:

**Improve Network Availability & Performance**
- Understand network utilization,
- Identify potential threats and design flaws

**Optimize Network Planning**
- Reclaim network resources,
  - Discover bottlenecks,
  - Conduct what-if analyses

**Minimize Operational Costs**
- Automate manual tasks,
- Better manage spare parts,
- Reduce errors
**Predictive Maintenance**

The predictive maintenance service routinely audits, tracks and analyzes the health status of every network element, ECI or third party, at the embedded level. This comprehensive and thorough audit provides a daily, real-time network performance diagnosis. Moreover, the service then provides a prioritized list of network faults with recommended corrective actions to derive optimal results.

The early warnings provided by this real-time intelligence can be used to pre-empt pending faults and failures and ensure service availability. Meeting and exceeding SLAs is guaranteed by identifying and eliminating potential network threats. This improves the overall customer experience and substantially strengthens customer loyalty.

**The Results:**

<table>
<thead>
<tr>
<th>Reduce Failures</th>
<th>Inventory Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Predict emerging service and hardware failures</td>
<td>• Track card replacements</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Improve Network Availability</th>
<th>Advanced Analytics</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identify fluctuating faults such as card resets/BIT/alarms</td>
<td>• Relative comparison of dynamic counters (I.E. DCC/FICB/Data)</td>
</tr>
<tr>
<td>• Multiple card failures</td>
<td>• Running duration is used to identify unknown failures</td>
</tr>
<tr>
<td>• Optical measurements</td>
<td>• Fully opened environment to easily modify MT final report</td>
</tr>
<tr>
<td>• DCC/Timing/DCN design faults</td>
<td></td>
</tr>
<tr>
<td>• Validating MSPL/MSPRing/IOP protection schemes</td>
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Multi-Layer Traffic Engineering and Optimization

Multi-Layer Traffic Engineering and Optimization uses multiple sources of data, big data analytics, and machine learning in a GIS based method to deliver insight that enables network planners to more intelligently build their networks, reclaim resources including lost fibers, and ensure new services are smoothly introduced.

This unique, effective and multi-layer service scans every network element beginning at the fiber layer, and thoroughly analyzes every associated path. A color coded map is then produced which provides a clear view across multiple vendors. It identifies stress points, single points of failure (SPO) and potential danger areas according to utilization level. This enables networks to design alternative routes, provision services and offset utilization to avoid congestion or breakdown and optimize network efficiency.

The Results:

**Network Infrastructure Analysis**
- Network Statistics (KPIs)
- Topological Analysis
- Impacted & Degraded Traffic

**Troubleshooting**
- Failure Analysis
- Network Vulnerabilities
- Single Point of Failure (SPOF)

**Network Growth & Optimization**
- Flow Analysis
- WHAT-IF Scenarios
- Traffic Load Balancing

**Traffic/Network Reengineering**
- Link Outage Management
- Loop Haul Analysis
- Network Bandwidth Utilization
- Traffic Optimization
Make Educated Decisions with ECI’s ELASTIC Analytics

ELASTIC Analytics use multiple sources of data, big data analytics, and machine learning to give network operators the necessary intelligence and analyses to avert crises in advance and better plan for the future. With a clear view of every element and a precise, real-time network status, operators know, with full certainty, that they have chosen optimal paths.

Here are examples of some who have already benefited from ELASTIC Analytics:

<table>
<thead>
<tr>
<th>Success Stories</th>
<th>Country</th>
<th>Selective examples of Elastic Analytics Success Stories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning: Reclaim network resources</td>
<td>Russia</td>
<td>Improved multi-layer design from the fibers. Optimizing network efficiency based on actual traffic patterns and capacity analysis</td>
</tr>
<tr>
<td>Operations: Predict activities impact</td>
<td>Israel</td>
<td>WHAT-IF scenarios predicted the exact impact of each planned or unplanned action. This helped to determine which corrective action derived optimal results</td>
</tr>
<tr>
<td>Operations: Preventive strategy</td>
<td>India</td>
<td>Advanced analytics improved the network performance, throughput, availability and reliability. It provided an insight-based preventive strategy that delivered growth in revenue through increased network availability and minimization of hardware breakdowns</td>
</tr>
</tbody>
</table>

WHAT-IF scenarios provide a comprehensive, end-to-end view of your network and how traffic is actually flowing.

Optimization of the fiber infrastructure enables the network designer/operator to free a significant amount of allocated fibers which are not in use.

Minimizing Single Points of Failures (SPOF’s) improves network performance, throughput, availability and reliability.

Contact us to find out how ELASTIC Analytics can improve network availability

ABOUT ECI

ECI is a global provider of ELASTIC network solutions to CSPs, utilities as well as data center operators. Along with its long-standing, industry-proven packet-optical transport, ECI offers a variety of SDN/NFV applications, end-to-end network management, a comprehensive cyber security solution, and a range of professional services. ECI’s ELASTIC solutions ensure open, future-proof, and secure communications. With ECI, customers have the luxury of choosing a network that can be tailor-made to their needs today – while being flexible enough to evolve with the changing needs of tomorrow. For more information, visit us at www.ecitele.com