Universities and Regional Optical Networks (RONs), tasked with providing high-speed, high-volume data communications, currently face important challenges. Supporting the progress of research and innovation requires network infrastructure that consistently and reliably delivers massive quantities of bandwidth, under heavy budgetary pressures.

Identifying the right products and technologies is critical to meeting the high demands of research and education networking, but these aspects are only a part of the whole picture. A top-performing network requires careful attention to interoperability, quality, cost, deployment schedules, and ongoing maintenance.

There is a clear advantage in working with a business partner with proven expertise in solving these challenges, who will work closely with you to address your specific network requirements and priorities. Fujitsu, an industry leader in multivendor communications networks and IT solutions, is helping organizations deliver ultra-high bandwidth, reduce deployment times, and control the cost of implementing networks to support the advancement of learning and scientific progress. We bring together the right combination of expertise and technology to support the most demanding of research and education applications, such as genome sequencing and climate modeling. A Fujitsu network solution will enable you to provide the highest standards of communications network to your research community.

### Master Network Integration

Fujitsu Master Network Integration (MNI) is a flexible suite of services that provides turnkey, end-to-end deployment solutions, customized to your organization’s specific needs. Our program management professionals are your single point of contact as they help you plan, deploy and maintain a scalable multivendor network that supports your business-driven IP network applications—delivered on-time and on-budget.

Fujitsu delivers comprehensive, fully integrated Layer 1–4 solutions to support a wide range of customer business-driven IP applications. We can deliver a unique MNI solution that enables you to deploy the right network to support your needs, whether it is cloud, data, video, VoIP, or other technologies.

#### Managed Services

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<th>Managed Services</th>
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<tr>
<td>Network operations support services help improve the cost and quality of your engineering operations, field services operations and Network Operations Centers (NOCs). Fujitsu offers three types of managed services for cable operators:</td>
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<tr>
<td>• Outsourcing and workforce augmentation</td>
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<td>• Network operations consulting and auditing</td>
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<td>• Network business continuity and disaster relief and recovery services</td>
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#### Multivendor Maintenance and NOC Services

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<tr>
<td>• Software maintenance and upgrade subscription</td>
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<td>• Full complement of training courses</td>
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<td>• Routine preventative maintenance</td>
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<tr>
<td>• Remote technical assistance from Fujitsu engineers</td>
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<tr>
<td>• Repair and return</td>
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<td>• Advance hardware replacement</td>
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<td>• On-site maintenance and support</td>
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### Building, Operating and Maintaining Multivendor Networks

#### Software Services
- OSS records reconciliation and updates
- OSS adapter development and lifecycle management
- New product testing and integration
- Element Management Systems
- Network Management Systems
- NETSMART® upgrades
- NETSMART integration
- NETSMART customization
- NETSMART migration
- Resident engineer
- Software project management

#### Network Engineering
- Network architecture design
- ISP engineering design
- Network integration
- Network migration
- Network optimization
- Hub optimization
- DCN/OSI optimization
- Network discovery and audit
- Installation quality audit
- Site survey and inventory audit
- Power, grounding and bonding audit
- DC power rectifier and battery maintenance
- Interoperability testing (IOT)
- Services flexblocks
- Wireless design and optimization
- Network element (NE) upgrades
- Resident engineer

#### Fiber Services
- Fiber characterization
- Fiber pre-qualification (Fujitsu designs only)
- Fiber analysis
- Fusion splicing
- Fiber termination, cleaning, testing and replacement
- Fiber installation and routing
- Fiber labeling

#### Multivendor System Integration Services
- Network design and engineering
- Full turnkey construction and engineering
- Engineering, furnishing and installation services
- On-site configuration and simple turn-up
- Rigorous long-term testing
- Furnish material
- Program management

#### Rack and Cabinet Integration
- Our custom-engineered systems combine the industry’s best elements to provide preconfigured racks, indoor and outdoor cabinet solutions for the broadband, wireline, FTTx, and backhaul markets.
  - Outside-plant cabinets
  - Indoor wall mount cabinets
  - Rack and cabinet integration

### Training and Support

At Fujitsu, we believe training plays a major role in ensuring quality engineering, reliable operation and maintenance of your systems. We offer training options to enable technical professionals to enhance their expertise, skills and knowledge of telecommunications-related technologies, while addressing a diversity of learning preferences.

- **Product Training:** These classes focus on application and equipment engineering, turn-up and maintenance and advanced maintenance and operations for FLASHWAVE®, NETSMART and FLM product lines.

- **MEF-CECP Exam Study Guide:** Fujitsu is a Metro Ethernet Forum (MEF) accredited training provider, authorized to deliver training for those who wish to obtain MEF Carrier Ethernet professional certifications.

- **Downloadable Technology Tutorials:** The self-paced training covers a wide variety of technologies, including DWDM, Ethernet and Carrier Ethernet essentials.

- **Online Technology Tutorials:** These pay-per-view training modules augment classroom-based training and include telecom fundamentals; ATM and SONET; Ethernet; DWDM; PON systems, and more.