AT&T Metropolitan Ring Services

Speed, Flexibility, Resiliency and Bandwidth

AT&T’s metropolitan ring services are designed with the performance, reliability and bandwidth your business demands.

**Designed to Meet Your Networking Needs**
Operating multiple locations in a metropolitan area? AT&T’s metropolitan ring services provide reliable, cost-effective solutions to meet your data networking needs. AT&T will design and implement a ring solution that satisfies your requirements for network performance, and business continuity that deliver cost savings, resiliency, flexibility and connectivity to new and existing inter-city network services, with industry-leading SLAs.

AT&T’s robust global network footprint combined with an extensive U.S. domestic local network infrastructure enables you to procure comprehensive solutions from one source. With AT&T’s local-to-global network, you can combine your metropolitan rings with AT&T Long Distance Services for a complete service solution! AT&T’s service offerings meet demands for new end-to-end high speed data services, as well as current cost-effective solutions.

**Why AT&T**
Metropolitan ring services are a proven solution for call center management, data center management, storage area networking, network consolidation and security solutions; access to and consolidation of, existing services and the need for flexible, growing or high bandwidth.

**AT&T’s Metropolitan Area Ring Services**

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Description</th>
<th>AT&amp;T Service Name</th>
<th>Reach</th>
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<tbody>
<tr>
<td>Metro SONET</td>
<td>Private SONET ring that can be provisioned up to 10 Gbps and able to combine voice, data, switched, video, storage and Ethernet traffic</td>
<td>ACCU-Ring® Network Access Service</td>
<td>49 States (all but Alaska)</td>
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<td>Dedicated SONET Ring Service</td>
<td>13 States*</td>
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<td>SMARTRing®</td>
<td>9 States*</td>
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<td>Metro DWDM</td>
<td>Dense Wave Division Multiplexing allows multiple protocols across the private network including SONET, ESCON, Fiber Channel and FICON</td>
<td>Ultraviable® Network Service</td>
<td>Nationwide (requires fiber)</td>
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<td>Multi Service Optical Network (MON)**</td>
<td>13 States*</td>
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<td></td>
<td></td>
<td>Wavelength Basic Arrangement</td>
<td>9 States*</td>
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<tr>
<td>Metro RPR</td>
<td>A dedicated Optical Ethernet solution that gives you the convenience of Ethernet with the security of a private Metro Ring</td>
<td>Ultraviable® Managed Optering**</td>
<td>Nationwide (requires fiber)</td>
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* 13 state territory includes: Arkansas, California, Connecticut, Illinois, Indiana, Kansas, Michigan, Missouri, Nevada, Ohio, Oklahoma, Texas and Wisconsin.
** MON does not offer DS-1/DS-3
† 9 state territory includes: Louisiana, Kentucky, Florida, Alabama, Georgia, Tennessee, North Carolina, South Carolina and Mississippi.
When you connect your locations or your customers' locations using a metropolitan ring service, your mission-critical applications ride a well-designed, reliable network that is managed and monitored by AT&T, leaving you free to manage your business instead of your network.

Quality matters. Customers trust AT&T to deliver award-winning performance for mission-critical applications, data and processes. AT&T's metropolitan ring services provide:

- **Performance** – Maximum up-time, with a highly available network. AT&T is there for you 24x7, with network monitoring and management tools.
- **Agility** – Extendable bandwidth provides you with scalability and management to handle unpredictable traffic volumes. Converged ring capabilities let you run SONET applications over DWDM and RPR rings.
- **Control** – Virtually seamless management for hosting, storage, voice and video.
- **Security** – AT&T's network has security built into every layer, from network transport to end-user application with additional options for diversity and redundancy.

For more information contact your AT&T Representative or visit us at www.att.com/wholesale.

AT&T offers a variety of metropolitan ring technologies and converged capabilities, based upon your configuration and requirements, including:

- **SONET Rings** – The industry acceptance of the SONET multiplexing scheme for optical signaling has made it the implementation of choice where high bandwidth and failure resistant technologies are needed. Supported protocols include OC-3 through OC-192 bandwidths in addition to DS-1/DS-3, OC-3/OC-48 standard service channels and 10Mbps, 50Mbps, 100Mbps, 150Mbps, 300Mbps, 600Mbps and 1Gbps Ethernet service channels.

- **Converged SONET/DWDM Rings** – Dense Wavelength Division Multiplexing (DWDM) dramatically increases the bandwidth and traffic flexibility of optical fiber. DWDM allows for different protocols, including SONET, to be carried over an optical band or wavelength and multiplies the capacity of a single fiber, thereby eliminating the need for extra data conversion services. You can integrate SONET and DWDM applications onto a seamless integrated ring for maximum efficiency and long term growth capability. Supported protocols include Native IT (Fast Ethernet, FDDI, ESCON, FICON, Fibre Channel, Gigabit Ethernet, 10 Gigabit Ethernet); DS-1/DS-3; SONET (OC-3 through OC-192) bandwidths; D1 video; ISC, and ETR.

- **Ethernet over Metropolitan Ring Services** – SONET and DWDM can easily carry your Ethernet traffic. As a feature of SONET, a section of the ring can be carved out for dedicated transport packet-based Ethernet traffic. The rest of the ring bandwidth can be used to transport traditional SONET (OC-X, DS-X) traffic using Ethernet over Sonet (EoS) or Resilient Packet Ring (RPR). EoS provides a point-to-point Ethernet connection between nodes offering the best of both worlds; the ability to converge Ethernet traffic with the security of your ring. Converged SONET/RPR (Resilient Packet Ring) is established according to IEEE 802.17, a standard designed for optimized transport of data traffic over fiber rings.