

# Just the Technical Facts



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## TIA-942 Standards Update

### What's the status of the TIA-942 Standard?

The new TIA-942 Telecommunications Infrastructure Standard for Data Centers has completed the ANSI approval process and was published April 1, 2005.

### What does the standard specify?

This specifies the minimum requirements for telecommunications infrastructure of data centers and computer rooms including single-tenant enterprise data centers and multitenant Internet hosting data centers. The topology proposed in this document is intended to be applicable to any size data center.

The standard provides information on factors that should be considered when planning and preparing the installation of a data center or computer room:

- Architectural Design (door, floor, lighting, etc.)
- Electrical and HVAC
- Grounding and Bonding
- Structured Wiring

### Tell me about the structured wiring guidance.

The standard includes specific structured wiring details regarding recognized media, topology, cable types, distances, rack and spaces, pathway and spaces and redundancy. The standard details structured wiring guidance according to the areas defined in Figure 1.

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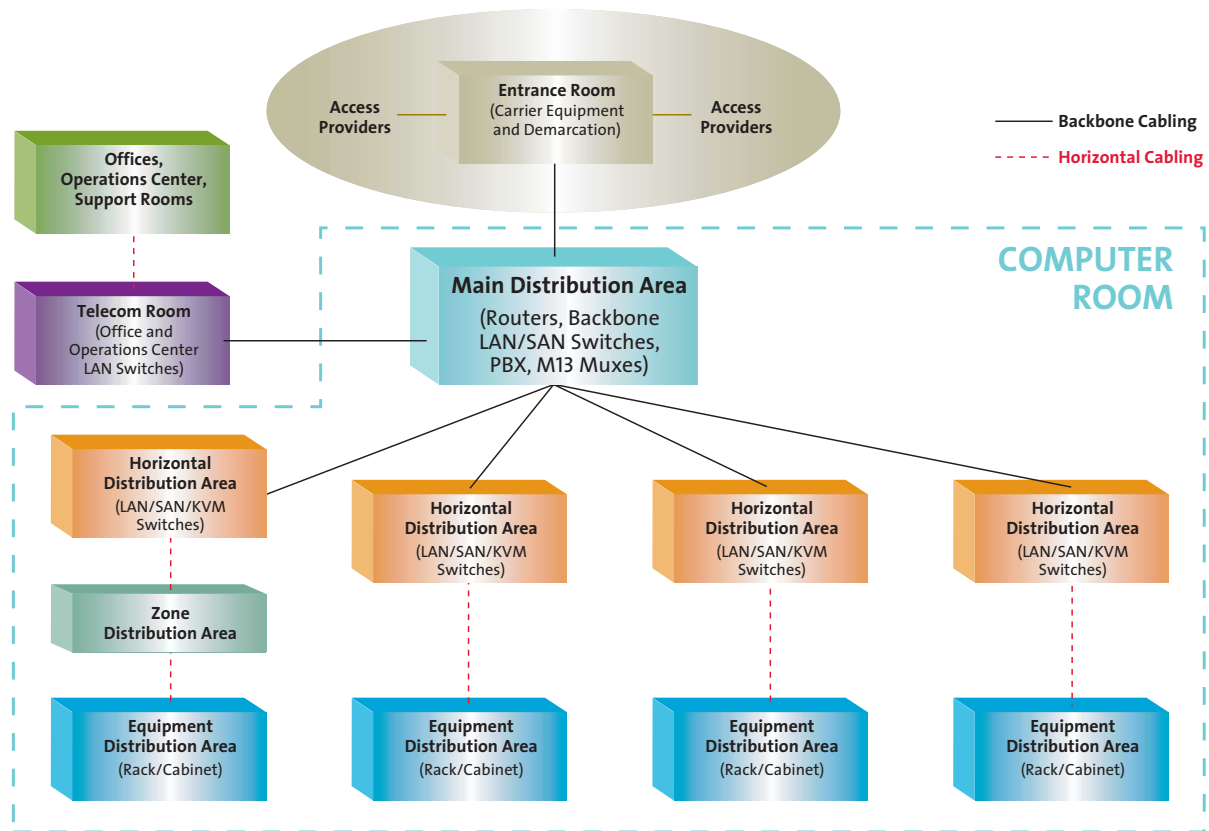


Figure 1. Data Center Topology | Drawing ZA-2841

## What are the recognized media types?

Optical fiber is specified in accordance with TIA-568 B.3 that includes Corning Cable Systems standard 50  $\mu\text{m}$ , 62.5  $\mu\text{m}$  and laser-optimized 50  $\mu\text{m}$  multimode fibers as well as standard single-mode fiber.

Copper CAT6 UTP per TIA-568 B.2 and 75 ohm coaxial cable are the recognized copper media types.

## Any limitations associated with media types?

Each media type is limited to 100 m in the horizontal except when the horizontal distribution area (HDA) is collapsed to the main distribution area (MDA) in which the optical cable is then allowed to be deployed up to 300 m. Copper cables continue to be restricted to 100 m including patch cords.

The HDA and zone distribution area (ZDA) limit copper media to 2000 and 288 connections, respectively. No restrictions apply to optical cable.

The standard includes guidance on separation of power and copper telecommunications cables. No restrictions apply to optical cable.

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## What about pathway and spaces?

The standard states that abandoned cable should be removed in access floor systems and overhead cable trays. In addition, cable in access floor systems shall not block ventilation airflow and copper communications cables and power cables are to be deployed in separate trays in overhead cable installations. These requirements present serious issues for copper cable due to its density and accessibility problems in data center pathway and spaces.

## Will optical connectivity structured wiring continue to dominate the data center?

Yes! The enhanced bandwidth, distance, distribution and pathway and spaces capabilities relative to the standard's requirement positions optical connectivity as the best structured wiring solution in the data center. Copper cable will be limited to interconnect cabinet applications due to the limitations discussed above.

## Is the standard consistent with Corning Cable Systems recommended data center structured wiring solutions?

Absolutely! Corning Cable Systems was a significant contributor to the development of the Data Center Standard. We attended TIA meetings as well as participated in ballots to ensure reliable, consistent structured wiring guidance was included in the standard.

Corning Cable Systems strongly encourages customers to use the TIA-942 Standard to facilitate in the planning, design and construction of data centers such that long-term, reliable service is obtained.

## Where can I purchase the TIA-942 Standard?

The standard can now be purchased in electronic format from TIA or IHS Global at their Web sites:

TIA: <http://www.tiaonline.org>

IHS Global: <http://global.ihs.com>

Please contact Doug Coleman (ext. 5580), Manager of Technology and Standards, if you have any questions or require additional information.

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Corning Cable Systems LLC • PO Box 489 • Hickory, NC 28603-0489 USA • 1-800-743-2675 • FAX: +1-828-901-5973  
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