**Most (Bridge)** je implementovaný na spojovej vrstve RM OSI a používa sa výhradne na prepájanie lokálnych sietí. V princípe poznáme dva druhy mostov. Transparentný most (Transparent Bridge), ktorý sa používa v sieťach typu Ethernet a most s adresou určenou zdrojovým uzlom (Source Routing Bridge), ktorý prepája siete typu Token Ring. Pri tomto type mostu všetky smerovacie informácie poskytuje zdroj správy. Tieto sú súčasťou hlavičky rámca. Informáciu o ceste k prijímaču získava vysielač učením, napríklad záplavovým rozposielaním špeciálnych rámcov (Dynamic Route Discovery Packet) na adresu prijímača.
Základnou vlastnosťou transparentných mostov je, že prepájajú dve, alebo viac LAN sietí (každé pripojenie mostu k sieti sa označuje ako port). Pracujú v promiskuitnom režime, čo znamená, že “počúvajú” všetko, čo je sieťou prenášané a ak ide o paket určený pre inú sieť, než z akej bol paket vyslaný, vyšle ho na daný port. Tieto vlastnosti označujú tzv. “The No-Frills Bridge”. Prakticky ide o to, že ak je paket určený pre rovnakú sieť, most si ho nevšíma. Ak je ale určený pre inú, k mostu pripojenú sieť, tento podľa toho, či pozná, alebo nepozná adresu cieľového uzla pošle paket do príslušnej siete, alebo na všetky svoje porty. Schopnosť učiť sa smerovaciu tabuľku sa označuje ako “The Learning Bridge”. Smerovacia tabuľka je tabuľka adries jednotlivých uzlov.
Spôsobov ako most získa smerovaciu tabuľku je niekoľko:
Tabuľku zadá mostu správca siete manuálne.
Správca siete umiestni stanice do sietí podľa ich adries (napríklad sieť č.1 : stanice s adresami menšími ako 100, sieť č.2 : stanice s adresami 100 až 250, atď.). Mostu potom treba manuálne zadať tabuľku týchto priradení.
Tieto metódy získania smerovacej tabuľky sa používajú len pri nízkych počtoch sieťových staníc (uzlov). Pri viacerých prepojených sieťach a vyšších počtoch sieťových staníc sa na učenie smerovacej tabuľky používa nasledujúci algoritmus.
Pre každý prijatý paket si most do smerovacej tabuľky uloží jeho zdrojovú adresu a priradí ju k danému portu (pripojenej sieti) odkiaľ bol paket vyslaný.
Ak most prijme paket, ktorého cieľovú adresu má v smerovacej tabuľke, tak ho pošle na daný port , ktorému je adresa priradená. Ak danú adresu „nepozná“, pošle paket na všetky svoje porty.
Pre smerovaciu tabuľku je určený tzv. čas starnutia (aging time). Tento sa eviduje pre každú adresu uloženú v tabuľke a ak počas neho nedošlo pre daný uzol k žiadnej komunikácii (nič neprijal ani nevyslal), je táto adresa z tabuľky zrušená.
V prípadoch, že dve lokálne siete sú prepojené viacerými mostami (redundancia mostov), používa sa algoritmus vetviaceho stromu (Spanning Tree Algorithm) na odstránenie prípadných cyklov v topológii.
Spanning Tree algoritmus zjednodušene povedané „oseká“ topológiu tak, aby existovalo práve jedno prepojenie medzi ľubovoľnou dvojicou sietí. Nadbytočné mosty sa logicky zneviditeľnia (akoby nefungovali). Ak aktívny most prestane fungovať, niektorí zo zneviditeľnených mostov „ožije“ a spojenie funguje cez neho. Pri aplikácií Spanning Tree algoritmu sa mosty dorozumievajú pomocou špeciálnych správ, ktoré zaistia, ktorý most zostane aktívny a ktoré sa dočasne zneviditeľnia.
Podrobný popis algoritmu Spanning Tree prekračuje rámec tohto projektu a nezaoberali sme sa ním ani pri implementácií programového vybavenia. Jeho vyčerpávajúci popis sa nachádza v.
Rozšírením transparentného mostu je tzv. vzdialený most (Remote Bridge). Jeho existencia rieši prepájanie dvoch LAN sietí, ktoré sú geograficky vzdialené. Je jasné, že v takom prípade sa nedá použiť prepojenie jedným mostom, ale každá sieť je pripojená k mostu, ktorý je s tým druhým prepojený napríklad telefónnou linkou (point-to-point link). Preto sa tiež nazývajú aj polovičné mosty (Half Bridge). Ich kombinácia (prvý most, dvojbodové spojenie a druhý most) sa navonok tvári ako jeden bežný transparentný most. Prenos dát sa rieši tak, že rámec z jednej siete sa “schová” do rámca SLIP alebo PPP a na druhej strane sa “rozbalí” .

**Transparent bridge**

**From Wikipedia, the free encyclopedia**

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| http://upload.wikimedia.org/wikipedia/commons/thumb/2/2c/Broom_icon.svg/40px-Broom_icon.svg.png | The introduction to this article provides **insufficient context** for those unfamiliar with the subject.Please help [improve the article](http://en.wikipedia.org/w/index.php?title=Transparent_bridge&action=edit) with a [good introductory style](http://en.wikipedia.org/wiki/Wikipedia%3AGuide_to_writing_better_articles#Lead_section). |

A **transparent bridge** is a computer network device: i.e. a device that is used to interconnect several computers in a network enabling the exchange of data among them.

Physically it looks like a *box* with two or more *holes* (ports) where network cables are plugged. The other extreme of each cable is usually connected to the network port of a computer, or to another network device, which is further connected to one or more computers. This builds a computer network.

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Transparent_bridge&action=edit&section=1)**] Advanced description**

A transparent bridge is a particular case of [network bridge](http://en.wikipedia.org/wiki/Network_bridge), i.e. a (computer) network device that interconnects mutilple networks of computers (a layer 2 device in OSI terms).

While a [network bridge](http://en.wikipedia.org/wiki/Network_bridge) simply enables local networks (or segments) to communicate with each other, but forwards the traffic to all ports, a transparent bridge is capable of redirecting the packets to the *proper port*, hence it can isolate the networks from broadcast traffic.

A transparent bridge directs the outgoing data traffic using a [forwarding table](http://en.wikipedia.org/wiki/Forwarding_table) that assocites addresses to ports. The table can be static or built by *learning* the network topology from the analysis of the incoming traffic. e.g. learning happens by the device inspecting the source [Media Access Control](http://en.wikipedia.org/wiki/Media_Access_Control) (MAC) address of all incoming data frames. The device will send frames out off all its ports (except the one it received the frame from) unless it has an entry in the forwarding table.

The bridge is called *transparent* because its activity is transparent to the network hosts.

The behavior closely resembles that of a [network switch](http://en.wikipedia.org/wiki/Network_switch).

The technology was originally developed by the Digital Equipment Corp. in the [1980s](http://en.wikipedia.org/wiki/1980s)

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Transparent_bridge&action=edit&section=2)**] Advantages of network bridge**

* Easy configuration
* Network segments isolation

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Transparent_bridge&action=edit&section=3)**] Disadvantages of a network bridge**

It does not enable complex topologies. E.g. can suffer in specific configurations (like *transparent bridge loops*). The [spanning-tree algorithm](http://en.wikipedia.org/w/index.php?title=Spanning-tree_algorithm&action=edit&redlink=1) can help reduce this problems.

**Network bridge**

**From Wikipedia, the free encyclopedia**

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A **network bridge** connects multiple [network segments](http://en.wikipedia.org/wiki/Network_segment) at the [data link layer](http://en.wikipedia.org/wiki/Data_link_layer) (layer 2) of the [OSI model](http://en.wikipedia.org/wiki/OSI_model), and the term **layer 2 switch** is often used interchangeably with bridge. Bridges are similar to [repeaters](http://en.wikipedia.org/wiki/Repeater) or [network hubs](http://en.wikipedia.org/wiki/Network_hub), devices that connect network segments at the [physical layer](http://en.wikipedia.org/wiki/Physical_layer), however a bridge works by using [bridging](http://en.wikipedia.org/wiki/Bridging_%28networking%29) where traffic from one network is managed rather than simply rebroadcast to adjacent network segments. In Ethernet networks, the term "bridge" formally means a device that behaves according to the [IEEE 802.1D](http://en.wikipedia.org/wiki/IEEE_802.1D) standard—this is most often referred to as a [network switch](http://en.wikipedia.org/wiki/Network_switch) in marketing literature.

Since bridging takes place at the data link layer of the [OSI model](http://en.wikipedia.org/wiki/OSI_model), a bridge processes the information from each frame of data it receives. In an [Ethernet](http://en.wikipedia.org/wiki/Ethernet) frame, this provides the [MAC address](http://en.wikipedia.org/wiki/MAC_address) of the frame's source and destination. Bridges use two methods to resolve the network segment that a MAC address belongs to.

* **Transparent bridging** – This method uses a forwarding database to send frames across network segments. The forwarding database is initially empty and entries in the database are built as the bridge receives frames. If an address entry is not found in the forwarding database, the frame is rebroadcast to all ports of the bridge, forwarding the frame to all segments except the source address. By means of these broadcast frames, the destination network will respond and a route will be created. Along with recording the network segment to which a particular frame is to be sent, bridges may also record a bandwidth metric to avoid looping when multiple paths are available. Devices that have this transparent bridging functionality are also known as *adaptive bridges*.
* **Source route bridging** – With source route bridging two frame types are used in order to find the route to the destination network segment. Single-Route (SR) frames comprise most of the network traffic and have set destinations, while All-Route(AR) frames are used to find routes. Bridges send AR frames by broadcasting on all network branches; each step of the followed route is registered by the bridge performing it. Each frame has a maximum hop count, which is determined to be greater than the [diameter](http://en.wikipedia.org/wiki/Graph_diameter) of the network graph, and is decremented by each bridge. Frames are dropped when this hop count reaches zero, to avoid indefinite looping of AR frames. The first AR frame which reaches its destination is considered to have followed the best route, and the route can be used for subsequent SR frames; the other AR frames are discarded. This method of locating a destination network can allow for indirect [load balancing](http://en.wikipedia.org/wiki/Load_balancing_%28computing%29) among multiple bridges connecting two networks. The more a bridge is loaded, the less likely it is to take part in the route finding process for a new destination as it will be slow to forward packets. A new AR packet will find a different route over a less busy path if one exists. This method is very different from transparent bridge usage, where redundant bridges will be inactivated; however, more overhead is introduced to find routes, and space is wasted to store them in frames. A switch with a faster backplane can be just as good for performance, if not for fault tolerance.

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**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Network_bridge&action=edit&section=1)**] Advantages of network bridges**

* Self configuring
* Primitive bridges are often inexpensive
* Reduce size of collision domain by [microsegmentation](http://en.wikipedia.org/wiki/Microsegmentation) in non switched networks
* Transparent to protocols above the MAC layer
* Allows the introduction of management - performance information and access control
* LANs interconnected are separate and physical constraints such as number of stations, repeaters and segment length don't apply

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Network_bridge&action=edit&section=2)**] Disadvantages of network bridges**

* Does not limit the scope of broadcasts
* Does not scale to extremely large networks
* Buffering introduces store and forward delays - on average traffic destined for bridge will be related to the number of stations on the rest of the [LAN](http://en.wikipedia.org/wiki/LAN)
* Bridging of different MAC protocols introduces errors
* Because bridges do more than repeaters by viewing MAC addresses, the extra processing makes them slower than [repeaters](http://en.wikipedia.org/wiki/Repeaters)
* Bridges are more expensive than repeaters

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Network_bridge&action=edit&section=3)**] Bridging versus routing**

[Bridging](http://en.wikipedia.org/wiki/Bridging_%28networking%29) and [Routing](http://en.wikipedia.org/wiki/Routing) are both ways of performing data control, but work through different methods. Bridging takes place at [OSI Model Layer 2](http://en.wikipedia.org/wiki/OSI_model#Layer_2:_Data_Link_layer) (Data-Link Layer) while Routing takes place at the [OSI Model Layer 3](http://en.wikipedia.org/wiki/OSI_model#Layer_3:_Network_layer) (Network Layer). This difference means that a bridge directs frames according to hardware assigned [MAC addresses](http://en.wikipedia.org/wiki/MAC_address) while a router makes its decisions according to arbitrarily assigned [IP Addresses](http://en.wikipedia.org/wiki/IP_Address). As a result of this, bridges are not concerned with and are unable to distinguish [networks](http://en.wikipedia.org/wiki/Computer_networking) while [routers](http://en.wikipedia.org/wiki/Routers) can.

When designing a network, you can choose to put multiple segments into one bridged network or to divide it into different networks interconnected by routers. If a host is physically moved from one network area to another in a routed network, it has to get a new IP address; if this system is moved within a bridged network, it doesn't have to reconfigure anything.

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Network_bridge&action=edit&section=4)**] Specific uses of the term "bridge"**

Documentation on [Linux](http://en.wikipedia.org/wiki/Linux) bridging can be found in the [Linux networking wiki](http://www.linux-foundation.org/en/Net%3ABridge). Linux bridging allows filtering and routing.

Certain versions of [Windows](http://en.wikipedia.org/wiki/Windows) (including XP and Vista) allow for creating a *Network Bridge* - a network component that aggregates two or more *Network Connections* and establishes a bridging environment between them. Windows does not support creating more than one network bridge per system.

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Network_bridge&action=edit&section=5)**] Filtering Database**

To translate between two segments types, a bridge reads a [frame](http://en.wikipedia.org/wiki/Data_frame)'s destination [MAC address](http://en.wikipedia.org/wiki/MAC_address) and decides to either forward or filter. If the bridge determines that the destination [node](http://en.wikipedia.org/wiki/Node_%28networking%29) is on another segment on the network, it forwards it (retransmits) the [packet](http://en.wikipedia.org/wiki/Packet_%28information_technology%29) to that segment. If the destination address belongs to the same segment as the source address, the bridge filters (discards) the frame. As nodes transmit data through the bridge, the bridge establishes a filtering database (also known as a forwarding table) of known MAC addresses and their locations on the network. The bridge uses its filtering database to determine whether a packet should be forwarded or filtered.

**Forwarding Information Base**

**From Wikipedia, the free encyclopedia**

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A **Forwarding Information Base** (FIB), also known as a **forwarding table**, is most commonly used in network [bridging](http://en.wikipedia.org/wiki/Bridging_%28networking%29), [routing](http://en.wikipedia.org/wiki/Routing), and similar functions to find the proper interface to which the input interface should send a packet to be transmitted by the router.

In contrast to [Routing Information Bases (RIB)](http://en.wikipedia.org/wiki/Routing_Information_Base), also known as [routing tables](http://en.wikipedia.org/wiki/Routing_table), FIBs are optimized for fast lookup of destination addresses. Earlier implementations cached only a subset of the routes most frequently used in actual forwarding, and this worked reasonably well for enterprises where there is a meaningful most-frequently-used subset. Routers used for accessing the entire Internet, however, experienced severe performance degradation in refreshing a small cache, and various implementations moved to having FIBs in one-to-one correspondence with the RIB [[1]](http://en.wikipedia.org/wiki/Forwarding_table#cite_note-0). RIBs are optimized for efficient updating by [routing protocols](http://en.wikipedia.org/wiki/Routing_protocols) and other [Control Plane](http://en.wikipedia.org/wiki/Control_Plane) methods, and contain the full set of routes learned by the router.

FIBs may also be implemented with fast hardware lookup mechanisms, such as Ternary [Content Addressable Memory (TCAM)](http://en.wikipedia.org/wiki/Content_addressable_memory). TCAM, however, is quite expensive, and tends to be used more in edge routers with relatively small numbers of routes than in routers that must carry full Internet routing tables, with supplementary internal routes [[2]](http://en.wikipedia.org/wiki/Forwarding_table#cite_note-1).

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**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Forwarding_Information_Base&action=edit&section=1)**] Applications for Data Link and other Link-Local Technologies**

A [link-local](http://en.wikipedia.org/wiki/Link-local) technology, such as [Medium Access Control](http://en.wikipedia.org/wiki/Medium_Access_Control) (MAC) protocols on [local area networks](http://en.wikipedia.org/wiki/Local_area_network), has an address that has no significance beyond a single medium. In contrast, network layer addresses, such as [IP](http://en.wikipedia.org/wiki/Internet_Protocol), are conceptually similar on all media in the routing domain.

Besides IEEE 802.1 bridging of MAC layer addresses, other link-local technologies using forwarding tables include [Frame Relay](http://en.wikipedia.org/wiki/Frame_Relay) and [Asynchronous Transfer Mode](http://en.wikipedia.org/wiki/Asynchronous_Transfer_Mode) switches, and Multiprotocol Label Switching. ATM has both link-local addresses and addresses that have end-to-end significance in the ATM domain.

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Forwarding_Information_Base&action=edit&section=2)**] Bridging**

MAC layer bridges learn the interface on which they first saw a particular source address, and associate that interface with that address. When the bridge subsequently receives a frame with a destination address in its forwarding table, it sends the frame out the interface stored in the forwarding table.

If the bridge has not seen the address yet, it floods it out all active interfaces, except received interface. As is also done with broadcast frames.

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Forwarding_Information_Base&action=edit&section=3)**] Frame Relay**

While the exact mechanics of a forwarding table is implementation-specific, the general model is that Frame Relay switches have statically defined forwarding tables, one per interface. When a frame with a given [Data Link Connection Identifier](http://en.wikipedia.org/wiki/DLCI) (DLCI) is received on one interface, the table associated with that interface gives the outgoing interface, and the new DLCI to insert into the frame's address field.

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Forwarding_Information_Base&action=edit&section=4)**] Asynchronous Transfer Mode**

ATM switches have link-level forwarding tables much like those used in Frame Relay. Rather than a DLCI, however, interfaces have forwarding tables that specify the outgoing interface, [Virtual Path Identifier](http://en.wikipedia.org/wiki/Virtual_Path_Identifier), and [Virtual Circuit Identifier](http://en.wikipedia.org/wiki/Virtual_Circuit_Identifier). These tables may be configured statically, or they can be distributed by the Private Network-to-Network Interface (PNNI) protocol, an ATM routing protocol with considerable similarity to the [Open Shortest Path First](http://en.wikipedia.org/wiki/Open_Shortest_Path_First) (OSPF) used for IP routing.

When PNNI is in use, the ATM switches at the edges of the ATM "cloud" will map one of the standard ATM end-to-end identifiers, such as an [NSAP](http://en.wikipedia.org/wiki/NSAP), to the next-hop VPI/VCI.

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Forwarding_Information_Base&action=edit&section=5)**] Multiprotocol Label Switching**

[MPLS](http://en.wikipedia.org/wiki/MPLS), which has been called "ATM without cells"[[3]](http://en.wikipedia.org/wiki/Forwarding_table#cite_note-2), has many similarities, at the forwarding level, to ATM. The Label Edge Routers (LSR) at the edges of an MPLS cloud map between the end-to-end identifier, such as an IP address, and a link-local label.

At each MPLS hop, there is a forwarding table that tells the Label Switched Router (LSR) which outgoing interface is to receive the MPLS packet, and what label to use when sending the packet out that interface.

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Forwarding_Information_Base&action=edit&section=6)**] Applications in Network Layer Routing**

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Forwarding_Information_Base&action=edit&section=7)**] FIBs in Ingress Filtering against Denial of Service**

FIBs can also play a role in an Internet Best Current Practice of ingress filtering. Though the simplest form of implementing ingress filtering is to use access lists to drop packets with improper source addresses, use of access lists becomes difficult on routers with a large number of adjacent networks, and traditional access lists are not used in high performance router forwarding paths.

While the IETF document BCP 38 on ingress filtering[[4]](http://en.wikipedia.org/wiki/Forwarding_table#cite_note-3) does not specify a method of implementing source address filtering, some router vendors have implemented a mechanism which employs lookups in the router's tables to perform this check. This is often implemented as a lookup in the FIB of the *source* address of the packet. If the interface has no route to the source address, the packet is assumed to be part of a denial of service attack, using a false or *spoofed* source address, and the router discards the packet.

When the router is [multihomed](http://en.wikipedia.org/wiki/Multihomed), ingress filtering becomes more complex. There are perfectly reasonable operational scenarios in which a packet could arrive on one interface, but that specific interface might not have a route to the source address. For the routers near the edge of the Internet, packet filters can provide a simpler and more effective solution than methods which employ routing information lookup[[*citation needed*](http://en.wikipedia.org/wiki/Wikipedia%3ACitation_needed)], though this approach can be challenging when managing routers which are reconfigured often. Ingress filtering for multihomed routers[[5]](http://en.wikipedia.org/wiki/Forwarding_table#cite_note-4) will accept the packet if there is a route back to its source address from *any* interface on the router. For this type of filtering, the router may also maintain an *adjacency table*, also organized for fast lookup, that keeps track of the router interface addresses that are on all directly connected routers.

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Forwarding_Information_Base&action=edit&section=8)**] FIBs in Differentiated Services/Quality of Service Routing**

IP [Differentiated Services](http://en.wikipedia.org/wiki/Differentiated_Services) provides an additional method to select outgoing interfaces, based on a field [[6]](http://en.wikipedia.org/wiki/Forwarding_table#cite_note-5) that indicates the forwarding priority of the packet, as well as the preference of the packet to be dropped in the presence of congestion.

Routers that support differentiated service not only have to look up the output interface for the destination address, but need to send the packet to the interface that best matches the Differentiated Services requirements. In other words, as well as matching the destination address, the FIB has to match Differentiated Services Code Points (DSCP).

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Forwarding_Information_Base&action=edit&section=9)**] FIB Information for Additional Processing**

Specific router implementations may, when a destination address or other FIB criterion is matched, specify other action to be done before forwarding (e.g., accounting or encryption), or applying an access control list that may cause the packet to be dropped.

**[**[**edit**](http://en.wikipedia.org/w/index.php?title=Forwarding_Information_Base&action=edit&section=10)**] References**

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transparent bridge

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| **Last modified: Thursday, March 09, 2006**  |

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| http://assets.devx.com/IBM/22556.jpg |
| [http://assets.devx.com/IBM/22559.gif**Requirements and Test Management kit**](http://mjxads.internet.com/RealMedia/ads/click_lx.ads/intm/sbc/www.webopedia.com/TERM/t/transparent_bridge.htm/1884270698/accessunit/OasDefault/Devx_IBMSkillBuildingPortal_4x/au-Skillbuilding-brown.html/39336166623164313438313664613130?ibm/Door/6836)For effective test automation IBM Rational offers a team-based, test management solution set that includes requirements, test management and change management for streamlined test planning, test execution, and results analysis. In this kit you will find demos and articles on Rational requirements and test management tools and best practices. [**»**](http://mjxads.internet.com/RealMedia/ads/click_lx.ads/intm/sbc/www.webopedia.com/TERM/t/transparent_bridge.htm/1884270698/accessunit/OasDefault/Devx_IBMSkillBuildingPortal_4x/au-Skillbuilding-brown.html/39336166623164313438313664613130?ibm/Door/6836) http://assets.devx.com/IBM/22558.gif[http://assets.devx.com/IBM/22559.gif**Use Rational's Change and Release Management Solution in Your IDE**](http://mjxads.internet.com/RealMedia/ads/click_lx.ads/intm/sbc/www.webopedia.com/TERM/t/transparent_bridge.htm/1884270698/accessunit/OasDefault/Devx_IBMSkillBuildingPortal_4x/au-Skillbuilding-brown.html/39336166623164313438313664613130?ibm/Door/6836)This demonstration illustrates how Rational® ClearCase®, ClearQuest® and Build Forge® can be used to help developers develop, build, and test their applications in the comfort of their IDE. [**»**](http://mjxads.internet.com/RealMedia/ads/click_lx.ads/intm/sbc/www.webopedia.com/TERM/t/transparent_bridge.htm/1884270698/accessunit/OasDefault/Devx_IBMSkillBuildingPortal_4x/au-Skillbuilding-brown.html/39336166623164313438313664613130?ibm/Door/6836) http://assets.devx.com/IBM/22558.gif[http://assets.devx.com/IBM/22559.gif**Using IBM Rational Tester for SOA Quality: Testing SOAP Secured Web Services**](http://mjxads.internet.com/RealMedia/ads/click_lx.ads/intm/sbc/www.webopedia.com/TERM/t/transparent_bridge.htm/1884270698/accessunit/OasDefault/Devx_IBMSkillBuildingPortal_4x/au-Skillbuilding-brown.html/39336166623164313438313664613130?ibm/Door/6836)Learn how to test SOAP-secured Web services by using the IBM Rational Tester for SOA quality. [**»**](http://mjxads.internet.com/RealMedia/ads/click_lx.ads/intm/sbc/www.webopedia.com/TERM/t/transparent_bridge.htm/1884270698/accessunit/OasDefault/Devx_IBMSkillBuildingPortal_4x/au-Skillbuilding-brown.html/39336166623164313438313664613130?ibm/Door/6836) http://assets.devx.com/IBM/22558.gif[http://assets.devx.com/IBM/22559.gif**IBM Rational Testing Ekits**](http://mjxads.internet.com/RealMedia/ads/click_lx.ads/intm/sbc/www.webopedia.com/TERM/t/transparent_bridge.htm/1884270698/accessunit/OasDefault/Devx_IBMSkillBuildingPortal_4x/au-Skillbuilding-brown.html/39336166623164313438313664613130?ibm/Door/6836)Access five complimentary kits for testers, developers and business domain experts. Each kit provides a collection of materials that can help you understand and use IBM Rational testing tools and best practices. [**»**](http://mjxads.internet.com/RealMedia/ads/click_lx.ads/intm/sbc/www.webopedia.com/TERM/t/transparent_bridge.htm/1884270698/accessunit/OasDefault/Devx_IBMSkillBuildingPortal_4x/au-Skillbuilding-brown.html/39336166623164313438313664613130?ibm/Door/6836)  |
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Transparent bridges are devices which connects more than one [network](http://www.webopedia.com/TERM/t/transparent_bridge.htm) segments with other [bridges](http://www.webopedia.com/TERM/t/bridge.html) to make all [routing](http://www.webopedia.com/TERM/t/router.html) decisions. A transparent bridge is essentially used to learn the [MAC addresses](http://www.webopedia.com/TERM/t/MAC_address.html) of all [nodes](http://www.webopedia.com/TERM/t/node.html) and their associated [port](http://www.webopedia.com/TERM/t/port.html), to [filter](http://www.webopedia.com/TERM/t/filter.html) incoming frames whose destination MAC addresses are located on the same incoming port, and to forward incoming frames to the destination MAC through their associated port@.

There are two types of Transparent Bridge Modes:

* ***Store-and-Forward***: Stores the entire frame and verifies the [CRC](http://www.webopedia.com/TERM/t/CRC.html) before forwarding the frame. If a CRC error is detected, the frame is discarded.
* ***Cut-Through***: Forwards the frame just after it reads the destination MAC address without performing a CRC check.  *Adapted from [*[*CCIE Routing and Switching Exam Certification Guide*](http://www.ciscopress.com)*]*