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Answers to Your Frequently Asked Questions

Q: What is *five-nines*?

A: The term *five-nines* refers to an uptime of 99.999 percent. This yields service that is available for all but approximately eight hours per year.

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**Explore the Four
Primary Roles a Server
Can Take On in a
Cluster**

- Primary CallManager Server
- Backup CallManager Server
- Database Publisher Server
- Trivial File Transfer Protocol (TFTP) Server

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Understand the Capabilities of Gateway Protocols

Session Initiation Protocol supports five elements of establishing and terminating communications:

- User location
- User capabilities
- User availability
- Call setup
- Call handling

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Learn the Guidelines for Multiple Clusters

There are three multicluster designs that may be tailored to fit your design goals:

- Multiple clusters within a campus or Metropolitan Area Network (MAN)
- Multiple clusters over a multisite WAN with distributed call processing
- Multiple clusters over a multisite WAN with centralized call processing

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Design a Large H.323 Network

NOTE

As of 12.1(5)XM, the upper level, or directory gate keeper could only service approximately six lower level gatekeepers. As this limit will likely change often, you should check with your local Cisco resource or the Cisco TAC for updated limits.

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Understand the Difference between Conferencing and Transcoding

- **Conferencing** is the process of joining multiple callers into a single multiway call. The two types of multiparticipant voice calls supported by the Cisco CallManager are ad-hoc and meet-me.
- **Transcoding** is the process of converting IP packets of voice streams between a low bit-rate (LBR) CODEC to G.711. Transcoding functions can be done by converting G.723 and G.729 CODECs to G.711.

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Understand the Advantages and Disadvantages of Using RSVP

Advantages:

- **Admissions Control**
RSVP not only provides QoS, but also helps other applications by *not* transmitting when the network is busy.
- **Network Independence/Flexibility** RSVP is not dependent on a particular networking architecture.
- **Interoperability** RSVP works inside existing protocols and with other QoS mechanisms.
- **Distributed** RSVP is a distributed service and therefore has no central point of failure.
- **Transparency** RSVP can tunnel across an RSVP-unaware network.

Disadvantages:

- **Scaling Issues**
Multifield classification and statefulness of reservations may consume memory and CPU resources.
- **Route selection and stability** The shortest path may not have available resources, and the active path may go down.
- **Setup time** An application cannot start transmitting until the reservation has been completed.

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Designing & Planning...

Dial Plan Preferences:

It is generally considered a good idea to create a dial plan that preferences certain paths routed across the IP network. If this network becomes unavailable, then calls should be routed across the PSTN. As always, the process should be transparent to the user.

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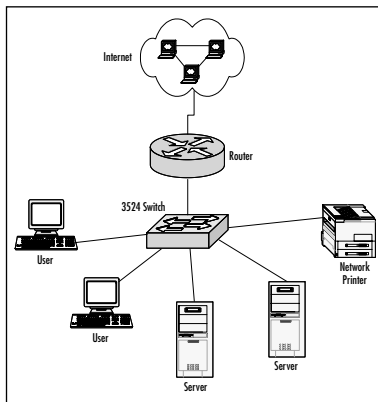
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Use Voice-Capable Gateways

A *voice-capable gateway* is a Cisco router that runs the MGCP IOS firmware that performs processing for voice calls on the local network to local or external destinations. The voice-capable gateways for branch offices are:

- Model 175x for small site gateways, for up to 10 users
- Model 26xx for small sites, for up to 50 users
- Mixed variations of these two devices

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