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## BRIDGE ROBUSTNESS STATUS

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The internet forwarding node that interconnects the version one LCS ring net, the Ethernet, and the CHAOSnet (known colloquially as the "fifth-floor bridge") has recently undergone a series of hardening and robustness measures that are intended to bring its availability up to the level required of a service facility. These measures include:

- Programming around a hardware problem in which the Ethernet UNIBUS interface and the LSI-11 UNIBUS simulator hang each other up on interrupt cycles.
- Moving the LSI-11 computer from the laboratory environment in room 500 to a more stable, quieter location in room 504A.
- Adding an automatic recovery program in read-only memory that is triggered by failure of the main forwarding loop to reset a watchdog timer. This recovery program accepts a file transfer of a new program load from any network host that notices that the bridge is down.
- Adding a periodic test process to the C.S.R. PDP-11/40 UNIX host that checks that the bridge is up and initiates a reload if it is not.

These changes are expected to turn the internet forwarding function into a dependable service. There is one remaining "robustness" project underway, to install a second, independent forwarding node, so that hardware failure of any single node will not cause the forwarding function to be lost. Installation of a second bridge is mechanically easy, but effective use of alternate paths requires that not-yet-implemented routing mechanisms for the internet be installed.

All the features described above (except for the second bridge) are now in service, so any observed loss of service should be reported immediately to me to allow analysis of where the robustness and hardening measures require more work.