



**RemoteSHADOW® APPLICATION TRANSPARENT,
AFFORDABLE AND PROVEN REMOTE REPLICATION SOLUTION
FOR REDUCED TIME TO RECOVERY!**

As a result of major business interruptions caused by man and/or nature, business managers have come to understand and measure the consequences that disruptions in access to data can cause to the business. As a result more businesses are developing and implementing initiatives to find affordable alternatives to keep its data accessible 24 hours 7 day each week.

RemoteSHADOW by Advanced Systems Concepts, provides business with an easy to implement, application transparent software solution to ensure your business data is continuously protected, updated and available at a remote contingency site in the event of a local production site failure. RemoteSHADOW is an affordable host based solution that protects your data without regard to distance and with no artificial bandwidth requirements. RemoteSHADOW is available for immediate deployment on a range of OpenVMS systems.

How does RemoteSHADOW® transport data to my site?

RemoteSHADOW provides two highly reliable methods of transmitting data to a remote site or system. With Synchronous communication your data is first written at the production system and then sent to the remote site to be applied to a remote device for later use. Once it has been written to the remote system your application can continue and you can be assured of the highest level of availability through remote data protection and integrity. However to ensure that production continues with minimal performance impact there needs to

be sufficient bandwidth to continuously write I/O's at the remote site and to receive a positive acknowledgement back at the primary system. When the number of write I/O's exceed the networks ability to receive a timely acknowledgement from the remote system the production application is forced to slow down and wait. These situations, which can be caused by a large number of write I/O's and/or insufficient bandwidth is

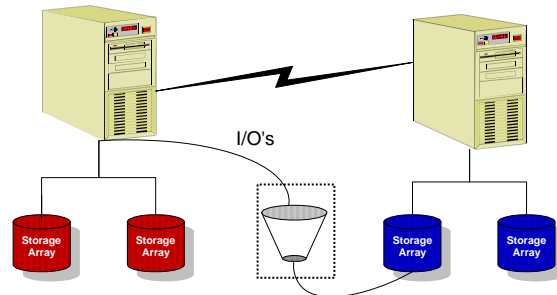


Figure 1 RemoteSHADOW's Synchronous and Asynchronous Modes of Operation

unacceptable as the production systems performance levels will be negatively affected and therefore must be avoided.

When your application experiences an unusually high activity level, RemoteSHADOW's unique Asynchronous Mode of operation provides continuous data availability, locally and remotely, with no production system slowdowns and without increasing bandwidth or costs.

When should we use RemoteSHADOW's Asynchronous Mode?

Many systems have peak I/O periods of short duration during the course of a typical day. Unfortunately many replication solutions require that you purchase bandwidth for these limited peak periods

and have it idle for most of the day. If you would like to minimize the operational cost of bandwidth to deal with peak periods or potential latency delays caused by transfers over great distances then RemoteSHADOW's Asynchronous communication is the answer!

RemoteSHADOW's Asynchronous feature **always** works to stay fully synchronized with the production systems. However during peak periods, either expected or unexpected, RemoteSHADOW manages the "peaks" by ensuring that the write I/O's are applied at the local side and then sent in time ordered sequence to the remote side. These I/O's are written within a latency period, measured in seconds, that you decide your business can "tolerate." This dynamic tolerance can be modified, on an as needed basis, even during the production day to match bandwidth with peak periods. RemoteSHADOW will queue these I/O's and apply them, as bandwidth becomes available within your specified time period.

With RemoteSHADOW's Asynchronous Communication method you can limit bandwidth expense, while ensuring the integrity of the data and still be prepared to continue your computing operations in the event of a primary site failure.

How do you know how much bandwidth you will need?

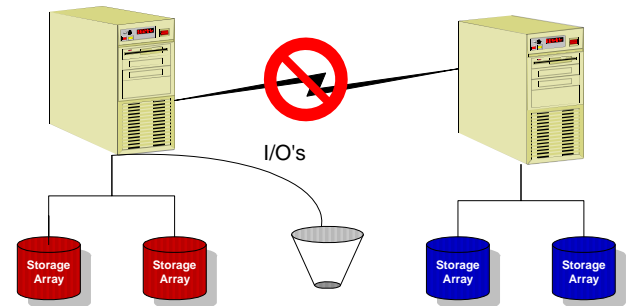
RemoteSHADOW comes with an advanced Data Collection Program that can be installed on your system(s) to measure the write I/O traffic generated for each disk device during a typical day(s). It will then provide a bandwidth model that suggests the appropriate bandwidth that would allow for the optimal choice of synchronization and bandwidth expense that your business and budget allow.



What happens if the Network fails during production?

RemoteSHADOW's Network Restart facility was designed to protect against the all too familiar "transient network failure." Too often when networks are interrupted it causes other replication products to fail out the remote site or cause a split or partitioned environment. Very often these network failures are for short or relatively short periods of time. Nonetheless they can cause replicated systems to initiate unnecessary and lengthy network copies. During these times your business is unnecessarily exposed if a primary site failure were to occur during a copy operation. RemoteSHADOW avoids this problem and our customers will back us up! RemoteSHADOW Network Restart feature can "tolerate" these interruptions by queuing I/O's, in time ordered sequence, at the local site and then after restarting your network it will apply them and any current I/O's in the order that they were generated.

Figure 2 RemoteSHADOW queues updates during transient Network Failures



RemoteSHADOW's Network Restart feature makes the implementation of data disaster recovery more reliable!

In what operating environments is RemoteSHADOW supported?

RemoteSHADOW is available to protect OpenVMS systems on Itanium, Alpha and VAX systems