

Read AP7940 PDU from script

The AP7940 from American Power Conversion (<https://www.apc.com>) is an older unit with limited ability to automatically read the values. I came up with a set of Perl scripts which will do this.

It is definitely a hack. The first thing you must do is set up an sftp server and tell the AP7940 to write the log files to that location (defined as \$logdir in this script).

This is done asynchronously. The AP7940 ftp's the log files hourly. *processPDULogs* is then set up as a cron job which runs once an hour. It looks for the log file, processes it, then deletes it (so the next sftp upload can overwrite).

NOTE: *processPDULogs* must have read/write access to \$logdir and, obviously, so must the sftp server.

The second script, *getPDU*, is used to read the file. When called with the name of the PDU and the key to be read, returns the value (useful for Zabbix monitoring, <http://zabbix.com>)

[processPDULogs](#)

```
#!/usr/bin/perl

# Script reads data log produced by APC AP7940 which if ftp'd to
$logDir
# it finds the last entry read (from status file) and scrolls down
through
# log file until it finds the next entry.
# then summarizes the entries (only happens once an hour) and stores
the value
# in the out file.

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my $logDir = '/home/apcpdu'; # location where log is ftp'd to by AP7940
my @PDUNames = ('pdu1', 'pdu2'); # names of pdu's to look for
my $logFileExtension = 'log'; # extension expected for log file name
my $statusExtension = 'status'; # extension used for recording last
record processed
my $outputFileExtension = 'out'; # extension used for most recent
summary
my $voltage = 208; # could not figure out how to get voltage from pdu,
so hard coded
my $pf = 1; # ditto power factor
```

```

foreach my $thisLog ( @PDUNames ) {
    my $statusFile = $logDir . '/' . $thisLog . '.' . $statusExtension;
    my $logFile = $logDir . '/' . $thisLog . '.' . $logFileExtension;
    my $outFile = $logDir . '/' . $thisLog . '.' . $outputFileExtension;
    my @log;
    my $status = 0;
#   print "Processing log from $thisLog\n";
    if ( -f $statusFile ) {
#       print "\tReading $statusFile\n";
        open STATUS, "<$statusFile";
        $status = <STATUS>;
        close STATUS;
    }
    if ( -f $logFile ) {
#       print "\tReading $logFile\n";
        open LOG, "<$logFile" or die "Could not read $logFile: $!\n";
        my $log = join( '', <LOG> );
        @log = split( "\n", $log );
        close LOG;
    } else {
        next;
    }
    chomp @log;
#   print "\tTrying to find header\n";
    my $line = 0;
    while ( $line < @log ) {
        last if $log[$line] =~ m/Date\s+Time\s+I\s+IMax\s+IMin/;
        $line++;
    };
#   print "\tFinding first line to process\n";
    if ( $status ) {
        while ( $line < @log && $log[$line] ne $status ) {
            $line++;
        }
    }
    $line++;
#   we should now be at the first entry AFTER the last one read
#   print "First line to process would be line $line\n$log[$line]\n";
    my $max = 0;
    my $min = 1000;
    my $sum = 0;
    my $count = 0;
    my $datetime; # last date and time read
    while ( $line < @log ) {
        my ($date,$time,$current,$currentMax,$currentMin) = split( /\s+/,
$log[$line]);
        $max = $currentMax if $currentMax > $max;
        $min = $currentMin if $currentMin < $min;
        $count++;
    }
}

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    $sum += $current;
    $datetime = "$date $time";
    $line++;
}
next unless $count;
open LOG, ">$outFile" or die "Could not write to $outFile: $!\n";
print LOG "timestamp\t$datetime\n";
print LOG "average\t" . $sum/$count . "\n";
print LOG "max\t$max\n";
print LOG "min\t$min\n";
print LOG "count\t$count\n";
print LOG "voltage\t$voltage\n";
print LOG "pf\t$pf\n";
close LOG;
`chmod 666 $outFile`;
open STATUS, ">$statusFile" or die "Could not write to $statusFile:
$!\n";
print STATUS $log[scalar(@log)-1];
close STATUS;
`mv $logFile $logFile.old`;
}

1;

```

getPDU

```

#!/usr/bin/perl -w

# script to get pdu data from summary file created by
# processPDULogs. Simply reads file pduname.out in $outputDir
# with pduname being the value of the first parameter
# returns the entry from the tab delimited file in the form
# key value
# where key is passed in as the second value

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my $pduName = shift;
my $key = shift;

my $outputExtension = 'out';
my $outputDir = '/home/apcpdu';

# retrieve one value (based on $key) from $datafile

```

```
sub getValue {
    my $datafile = shift;
    my $key = shift;
    return -1 unless $key;
    # open data file and get line with key in it
    # maybe faster using grep???
    open DATA, "<$datafile" or die "No data to read: $!\n";
    my @lines = grep { /^$key\t/ } <DATA>;
    close DATA;
    # clean up line and return the value (second field of tab delim
line)
    chomp( $lines[0] );
    ($key,$value) = split ("\t", $lines[0] );
    return $value;
}

die "Invalid PDU name" unless $pduName;
my $filename = "$outputDir/$pduName.$outputExtension";
die "No Datafile" unless -e $filename;

die "No key given" unless $key;

print getValue( $filename, $key );

1;
```

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Last update: **2016/11/06 01:08**

