Recalculating Calendar Time to Julian Days and Back

All times in Skylark services are measured in frames when they are passed as integers, and in Julian days when they are passed as double integers. Recalculating calendar time to the Julian day and back can be implemented by the following code:

```cpp
unsigned greg_to_jul( int y, int m, int d ) {
    unsigned c, ya;
    if ( y <= 99 )
    y += 1900;
    if ( m > 2 ) {
    m -= 3;
    } else {
    m += 9;
    y--;
    }
    c = y;                        // NOTE: Sym C++ 6.0 bug
    c /= 100;
    ya = y - 100*c;
    return 1721119 + d + (146097*c)/4 + (1461*ya)/4 + (153*m+2)/5;
}
```

```cpp
void jul_to_greg( unsigned jd, int &y, int &m, int &d ) {
    unsigned x;
    unsigned j = jd - 1721119;
    y = (j*4 - 1)/146097;
    j = j*4 - 146097*y - 1;
    x = j/4;
    j = (x*4 + 3) / 1461;
    y = 100*y + j;
    x = (x*4) + 3 - 1461*j;
    x = (x + 4)/4;
    m = (5*x - 3)/153;
    x = 5*x - 3 - 153*m;
    d = (x + 5)/5;
    if ( m < 10 ) {
    m += 3;
    } else {
    m -= 9;
    y++;
    }
}
```

```cpp
double secs_to_time(double s) {
    return s/(24*3600);
}
```

```cpp
double time_to_secs(double t) {
    return t*(24*3600);
}
```

```cpp
double ymdf_to_time(int y, int m, int d, int f, double frame_time) {
    int jd = greg_to_jul(y, m,  d);
    int df = (int)(24*3600/frame_time + 0.5);
    return jd + ((double)f)/df;
}
```

```cpp
void time_to_ymdf(double t, double frame_time,
                  int &y, int &m, int &d, int &f) {
    int fd = (int)(24*3600/frame_time + 0.5f);
    int jd = (int) t;
    jul_to_greg( jd, y, m, d);
    f = (int)((t - jd)*fd + 0.5);
}
```

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