Accelerating spaceship

A spaceship is initially at rest with respect to frame S. At a given instant, it starts to accelerate with constant proper acceleration, a. (The *proper acceleration* is the acceleration with respect to the instantaneous inertial frame the spaceship was just in. Equivalently, if an astronaut has mass m and is standing on a scale, then the scale reads a force of $F = ma$.) What is the relative speed of the spaceship and frame S when the spaceship's clock reads time t?