To understand the formation of small-scale magnetic fields in the quiet Sun and their contribution to the solar activity, it is essential to investigate the properties of internetwork magnetic fields. Using Hinode/NFI magnetograms of very high sensitivity ($7 \text{ Mx/cm}^2$), spatial resolution (0.16 arcsec/pixel), and cadence (90 s), we follow the evolution of magnetic fields inside of a supergranular cell located at disk center. In 5 hours of continuous measurements covering an area of $20.8 \times 23.2 \text{ arcsec}^2$, we manually track 2415 magnetic elements from appearance to disappearance and derive their physical properties. The average values of the magnetic flux, effective diameter, lifetime, and horizontal velocity are $3 \times 10^{17} \text{ Mx}$, 0.5 Mm, 17 min, and 2 km/s, respectively. We also investigate how the physical parameters of the individual elements vary as a function of time, flux, and spatial position. Using this unique data set, we determine with unprecedented accuracy the flux emergence and disappearance rate in the solar internetwork.