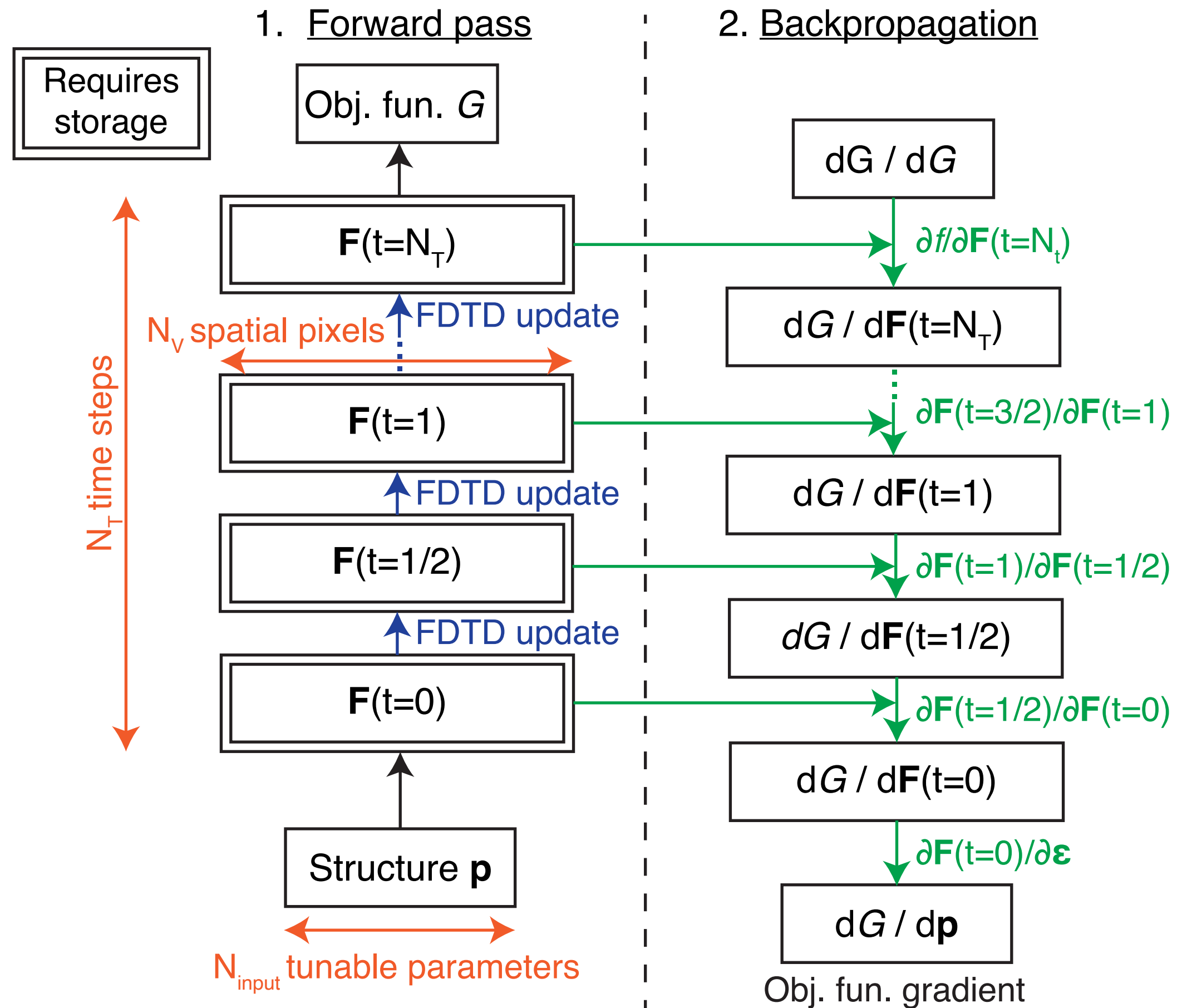


a FDTD on conventional reverse mode AD**b** FDTD on direct differentiation