

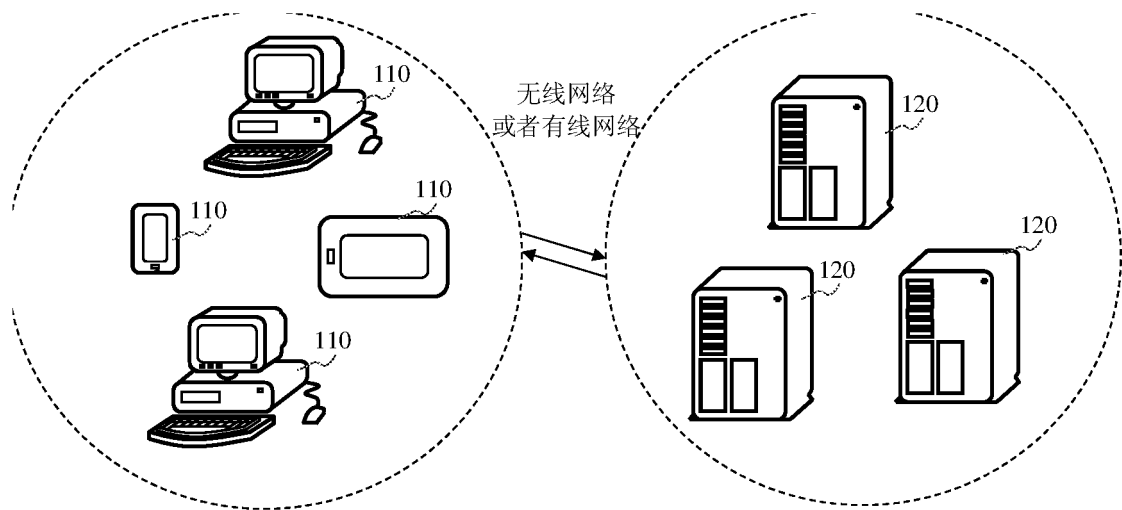


图 1

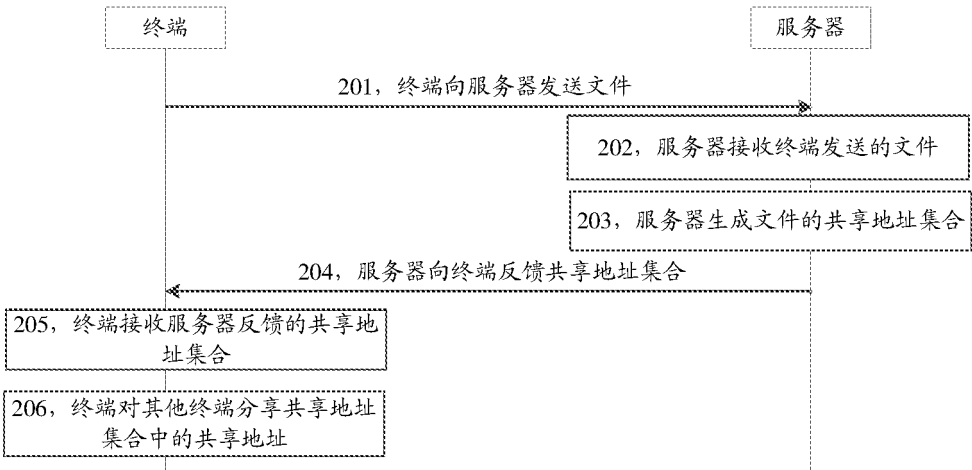


图 2

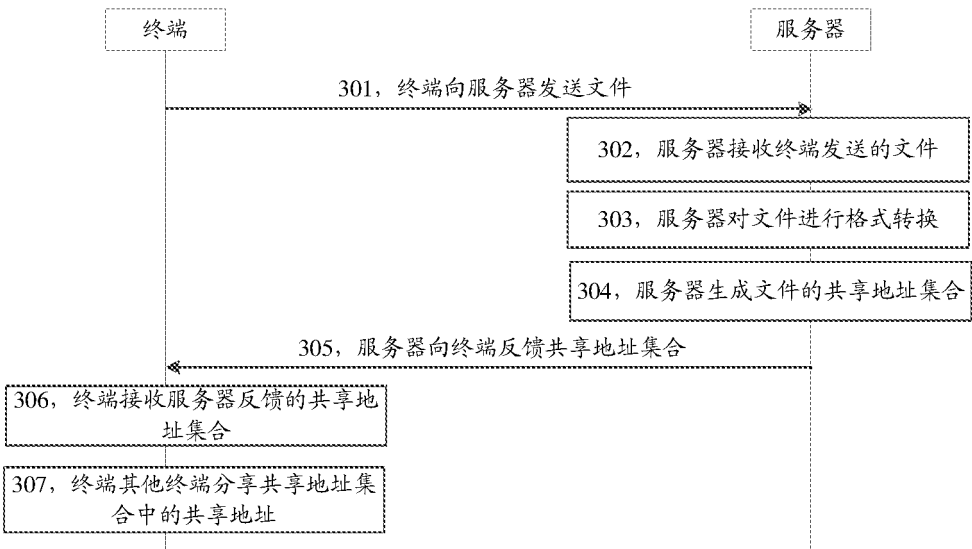


图 3A

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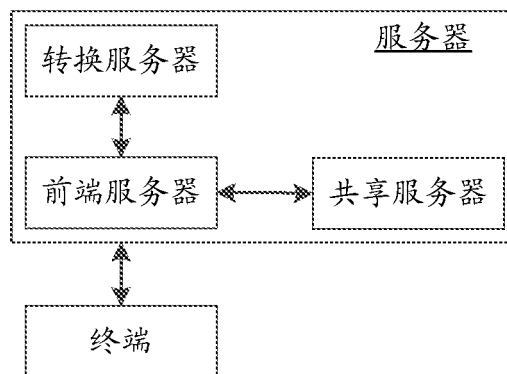


图 3B

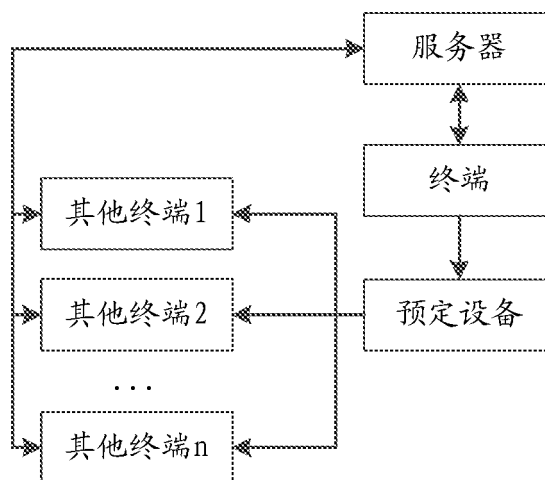


图 3C

←
ID:8619 364 310
⋮ ⚙️ | - □

【例 1】 设 $f(x)$ 的一个原函数 $F(x) = \ln^2(x + \sqrt{x^2 + 1})$, 求 $I = \int \frac{f'(x)}{x^2} dx$

解 $I = \int \frac{f'(x)}{x^2} dx = \frac{f(x)}{-x} - \int f(x) \cdot \left(-\frac{1}{x^2}\right) dx = -\frac{f(x)}{x} + \int \frac{f(x)}{x} dx$

$$= -\frac{2x}{\sqrt{x^2 + 1}} \ln(x + \sqrt{x^2 + 1}) - \ln^2(x + \sqrt{x^2 + 1}) + C$$

【例 2】 设 $F'(x) = f(x)$, 当 $x \geq 0$ 时, $f(x)F(x) = \frac{x e^x}{2(1+x)^2}$, 又 $F(0) = 1$, $F(x) > 0$, 求 $f(x)$ ($x \geq 0$).

解 $2 \int f(x)F(x) dx = 2 \int F'(x)F(x) dx = F^2(x) + C$

老师

❤️ 788

麦序模式

1. 用户 A
2. 用户 B
3. 用户 C

讨论 | 问题(0)

用户 A 11:32:05
我觉得老师讲得挺好的, 通俗易懂

用户 D 11:34:19
是的呀, 挺好的

→ 教室列表
🔊 🎵 🎧 📢 F2 按住F2说话 🚫 录音已禁用
📱 我的应用 📖 我的课程

图 3D

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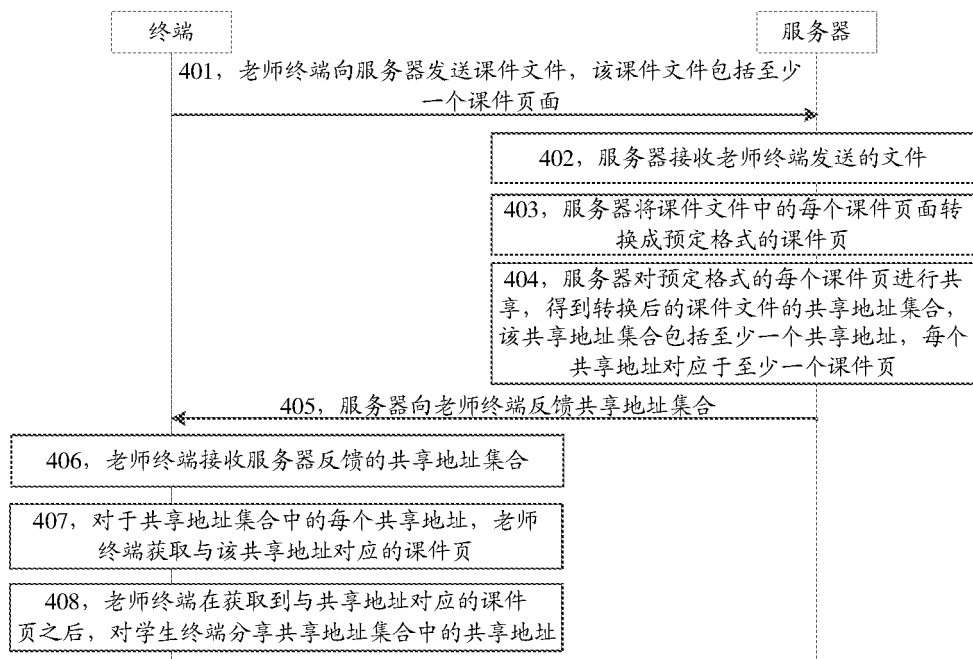


图 4

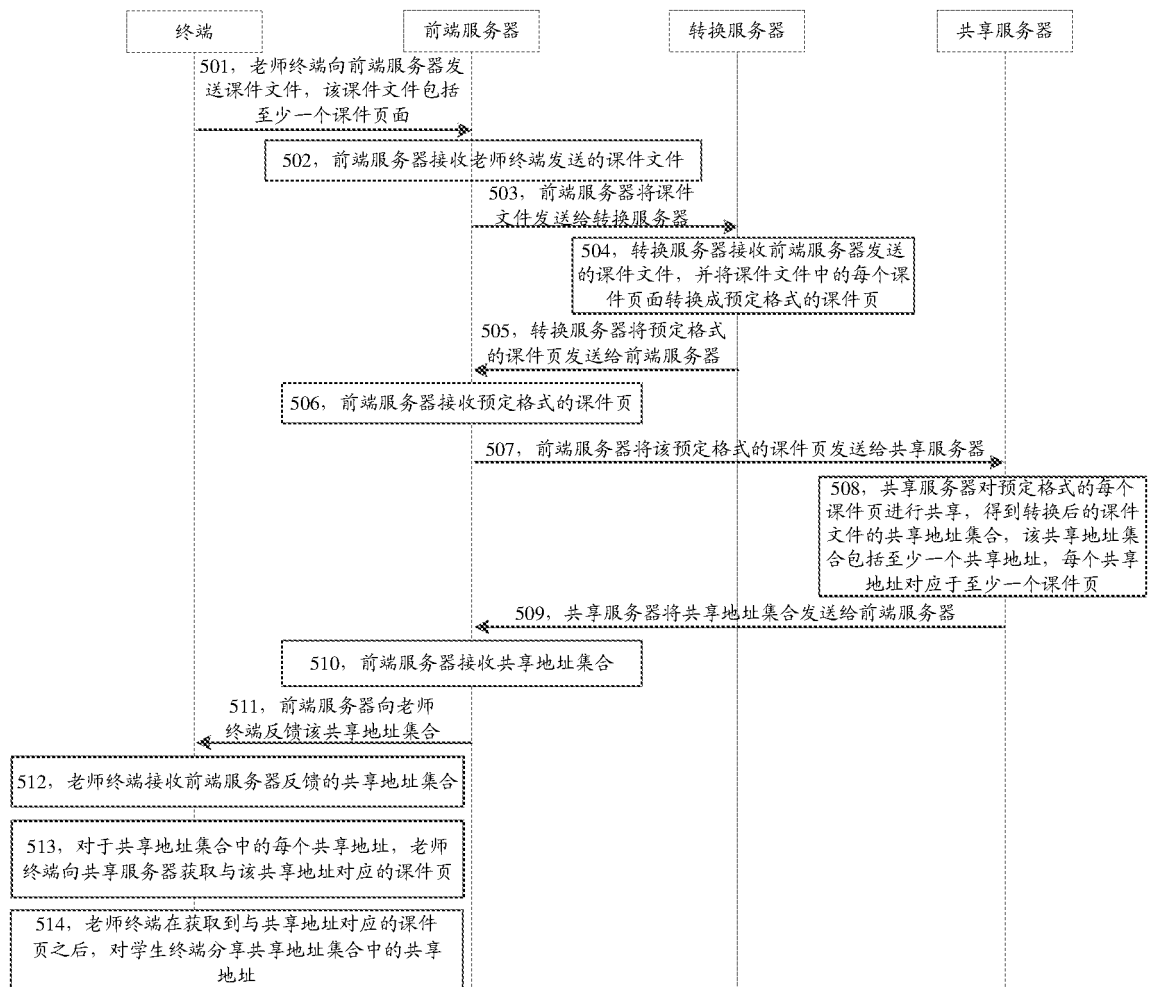


图 5

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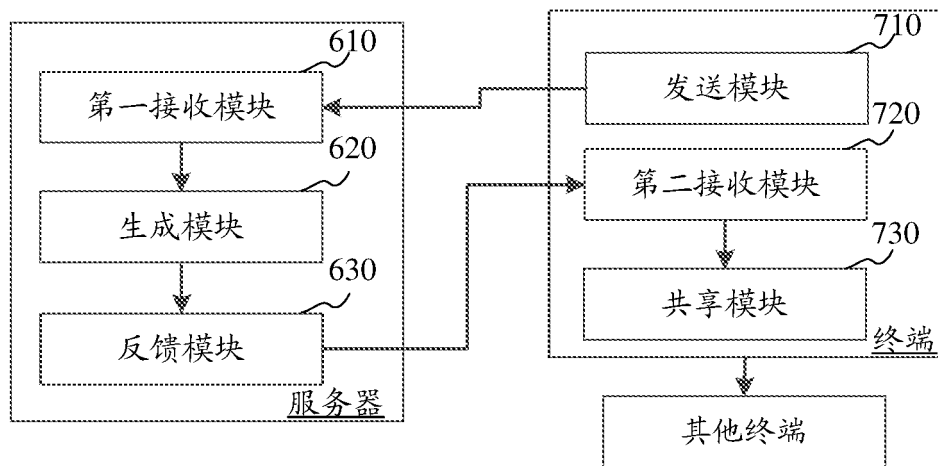


图 6

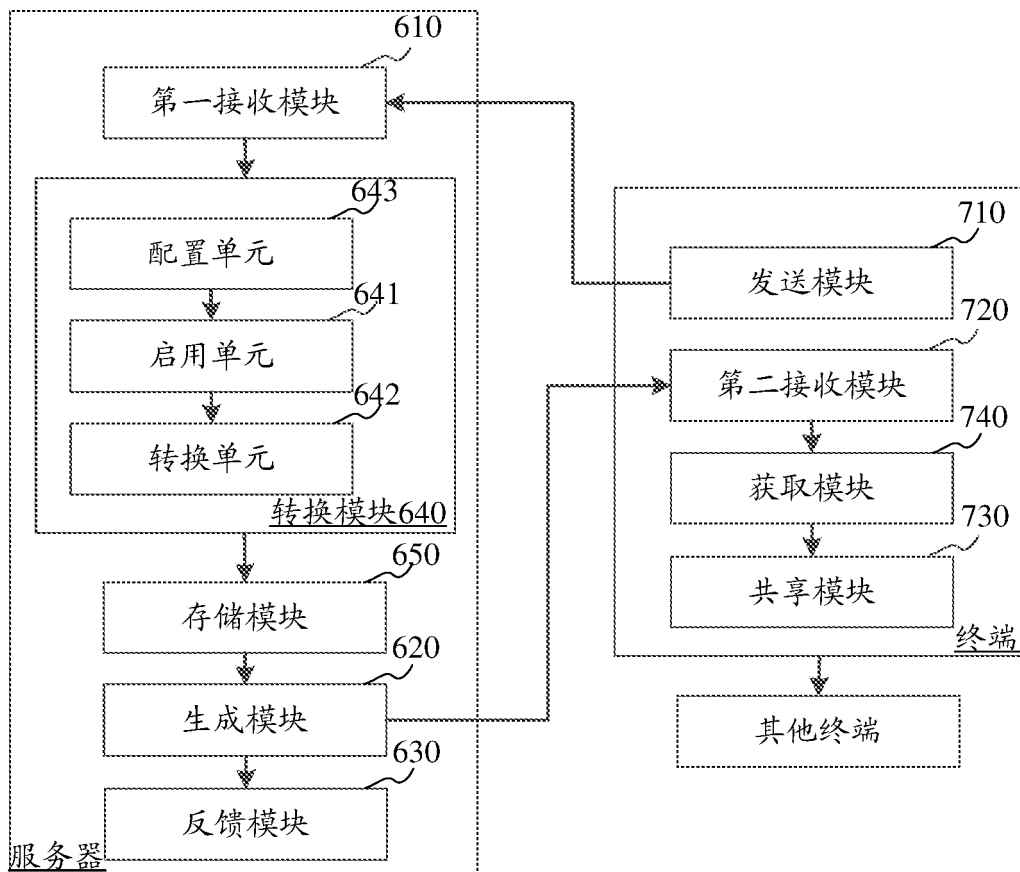


图 7

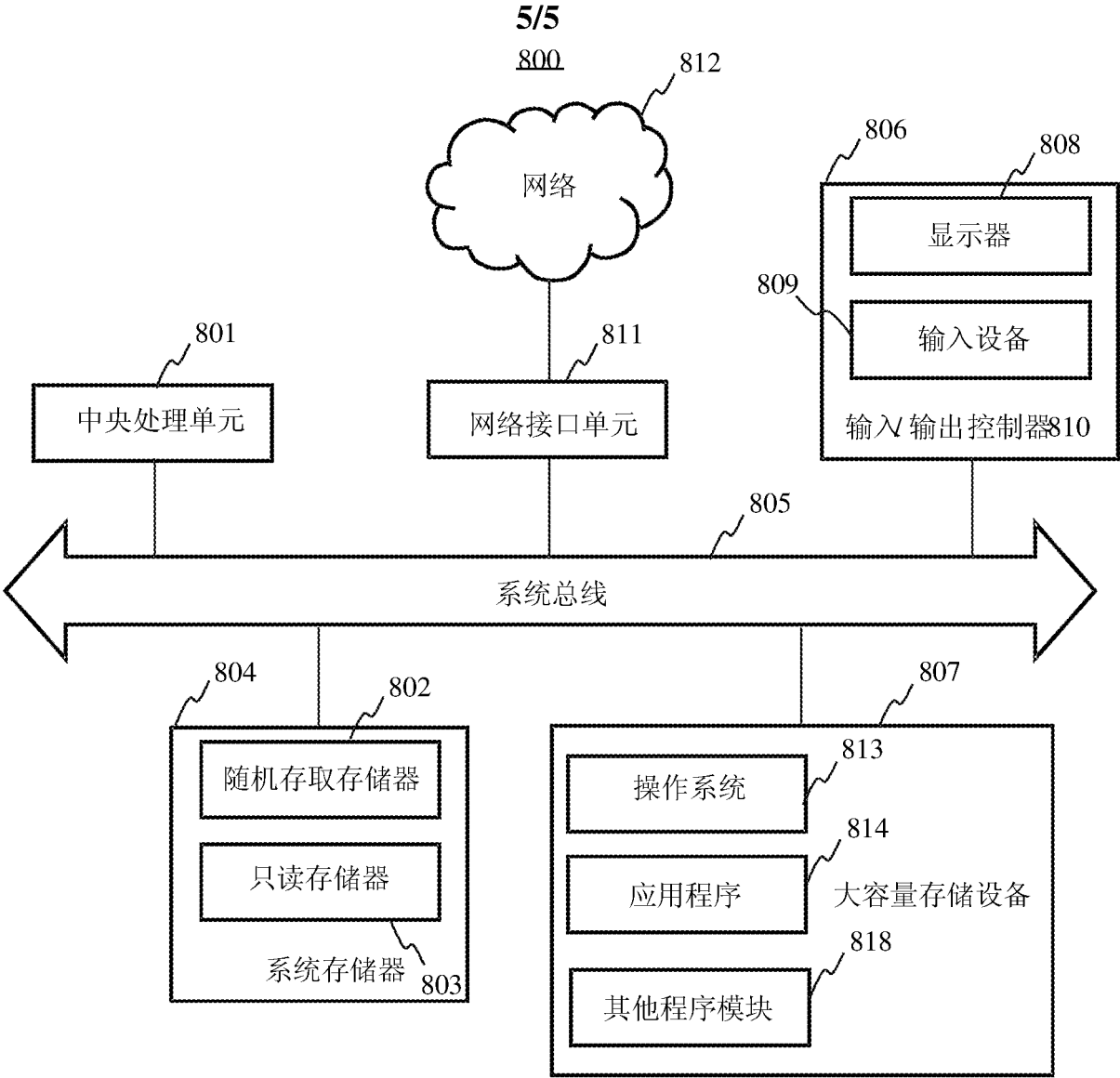


图 8

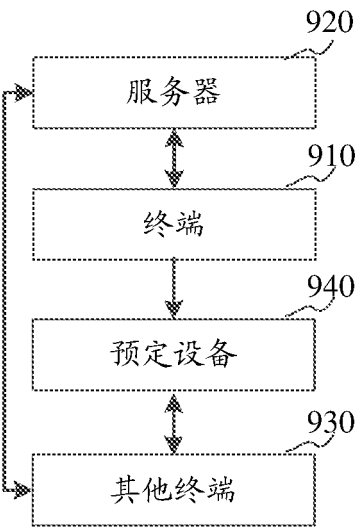


图 9