

Diplomarbeit Nr. 3616

Bootstrapping Provisioning Engines for On-demand Provisioning in Cloud Environments

Lukas Reinfurt

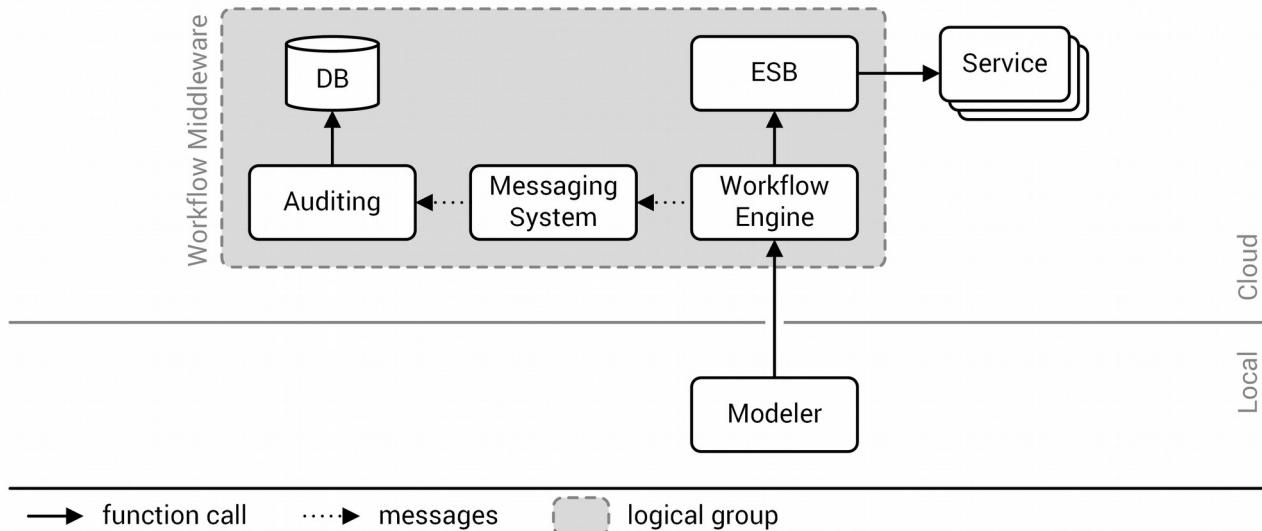
Einführung

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- Einführung
- Ausgangslage
- Anforderungen
- Entwurf
- Implementierung
- Future Work
- Live Demo

Ausgangslage – Original SimTech Architektur

- Lokaler Modeler
 - Workflow Middleware mit
 - Workflow Engine
 - ESB
 - MOM
 - Auditing und DB
 - Services
 - Annahme: Services laufen immer



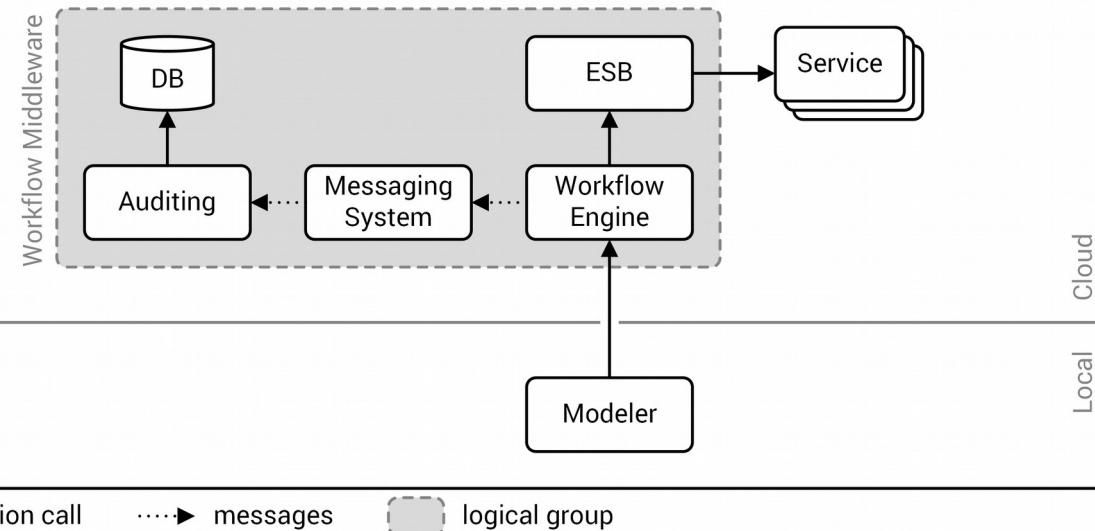
Ausgangslage – Erweiterte Anforderungen

■ Scientific Workflows brauchen mehr Flexibilität

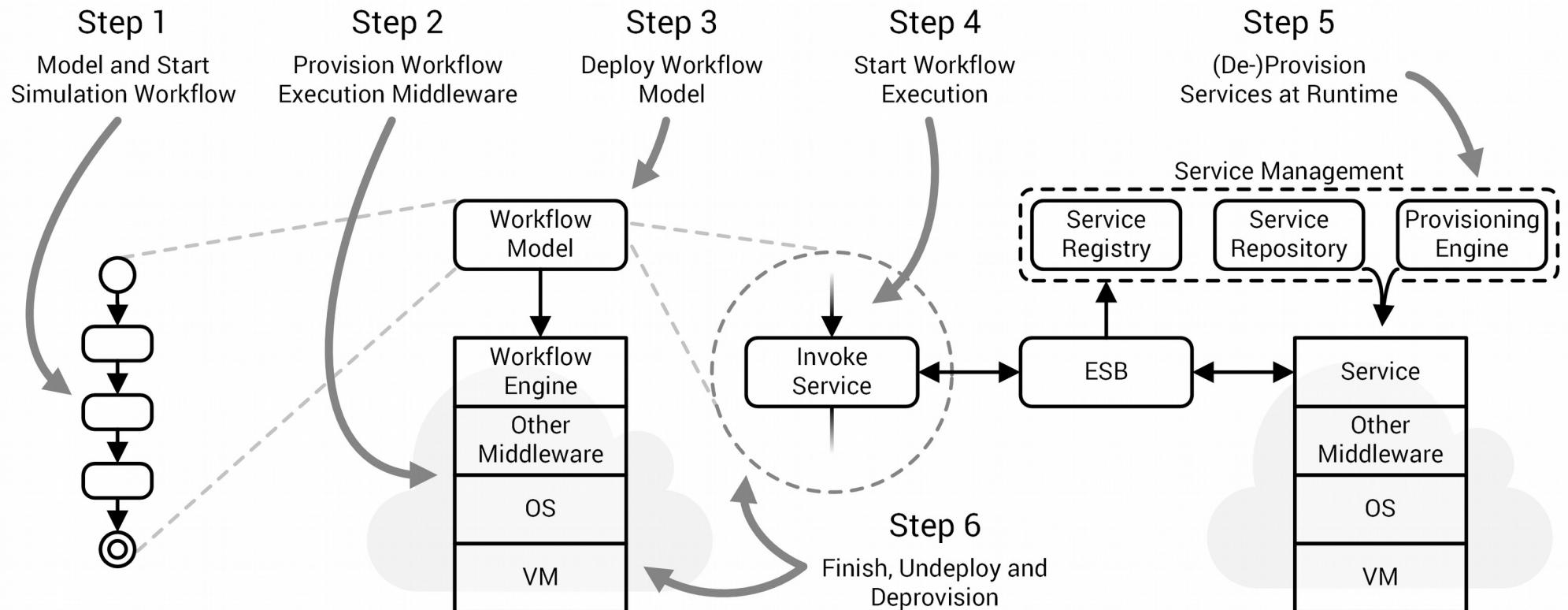
■ Dynamische Bereitstellung von Resources

■ On-demand Provisionierung von Middleware und Infrastruktur

■ Dynamisches Deployment von Services

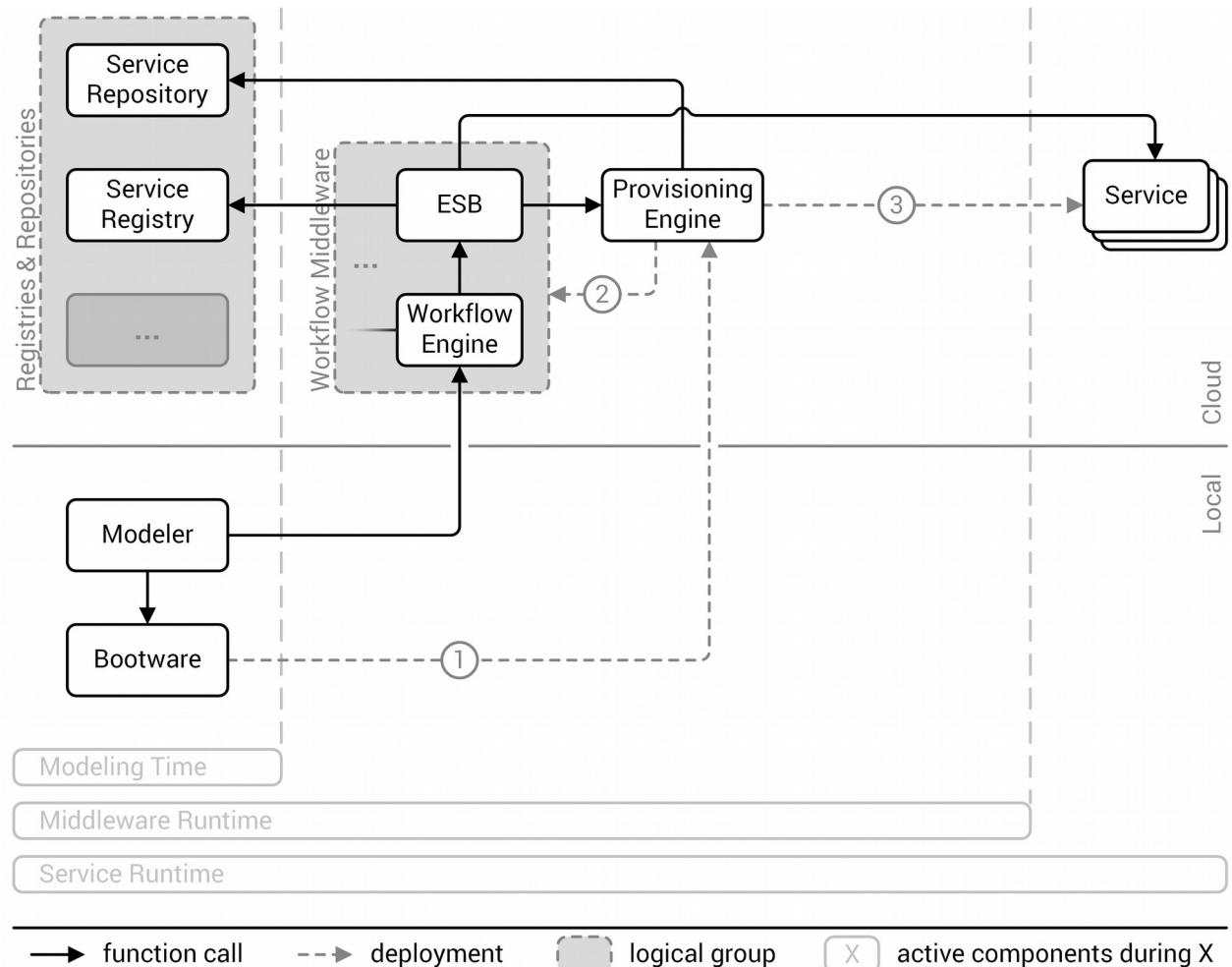


Ausgangslage – On-Demand Provisioning Schritte



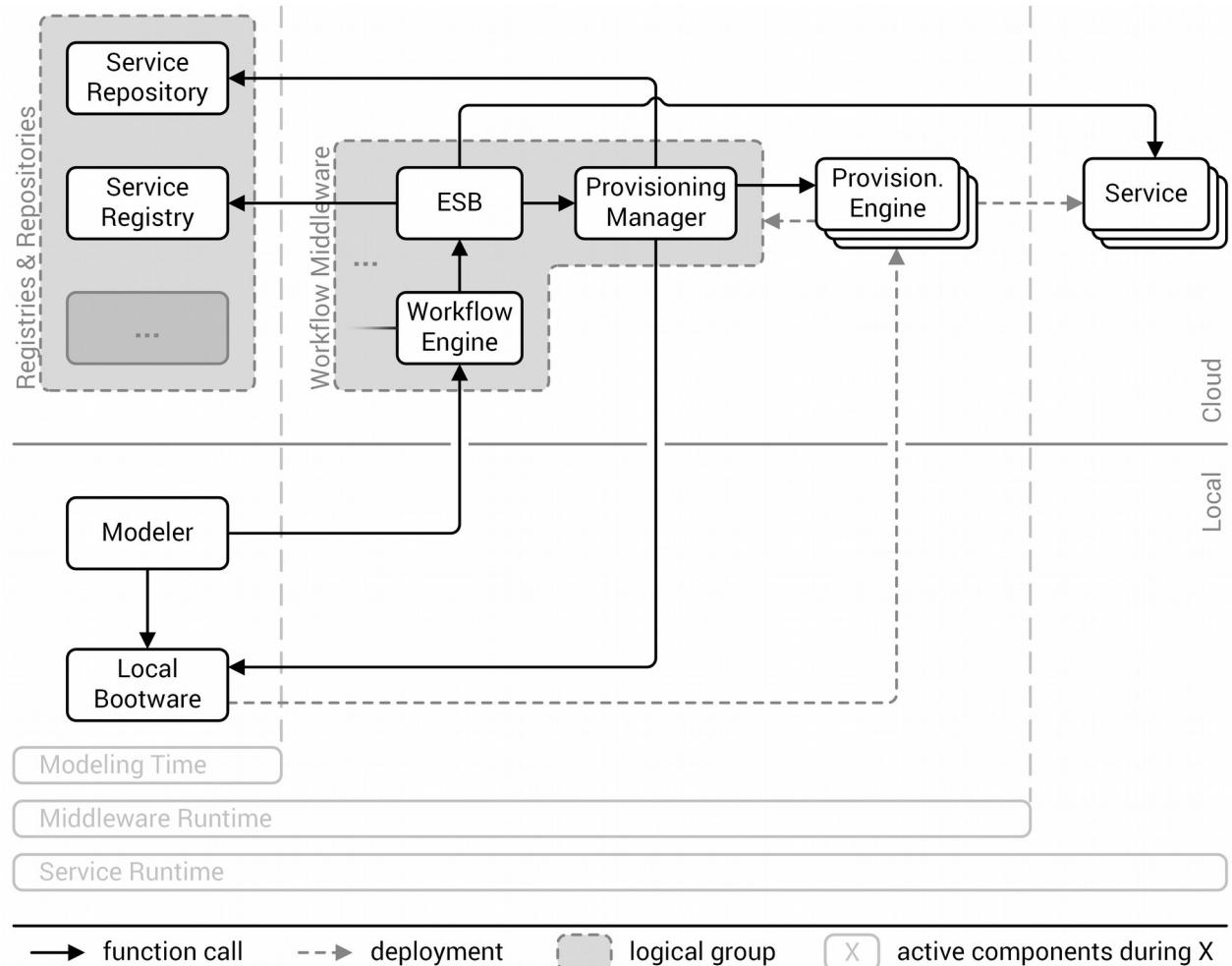
Ausgangslage – On-Demand Provisioning Architektur

- Lokale Bootware provisioriert Provisioning Engine (PE)
- Provisioning Engine deployed Workflow Middleware
- Provisioning Engine deployed Services während der Workflow-Ausführung



Ausgangslage – Provisioning Manager

- Ermöglicht mehrere Provisioning Engines
- Kapselt Kommunikation mit verschiedenen PEs
- Übernimmt Kommunikation mit Service Repository für PEs



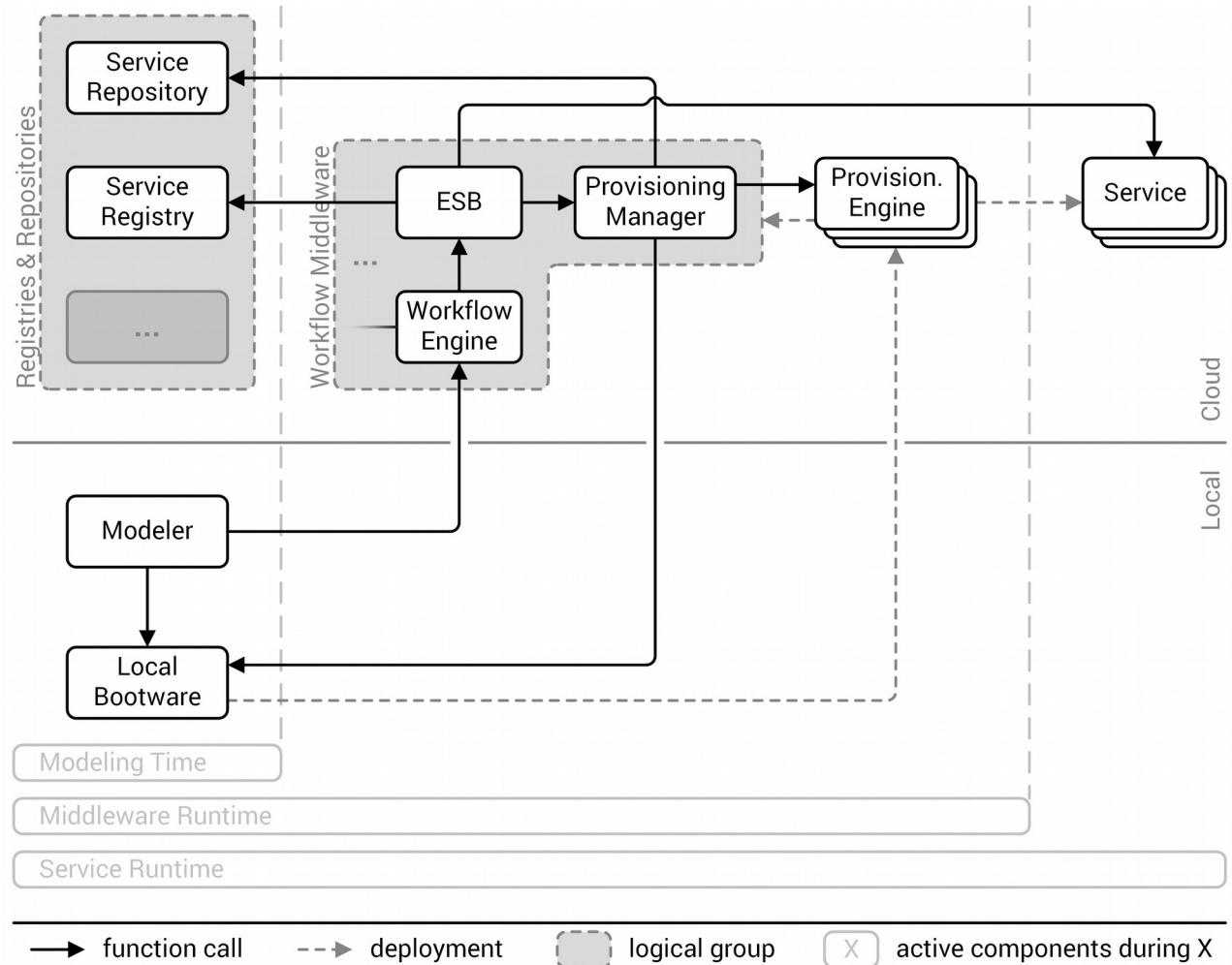
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Entwurf –

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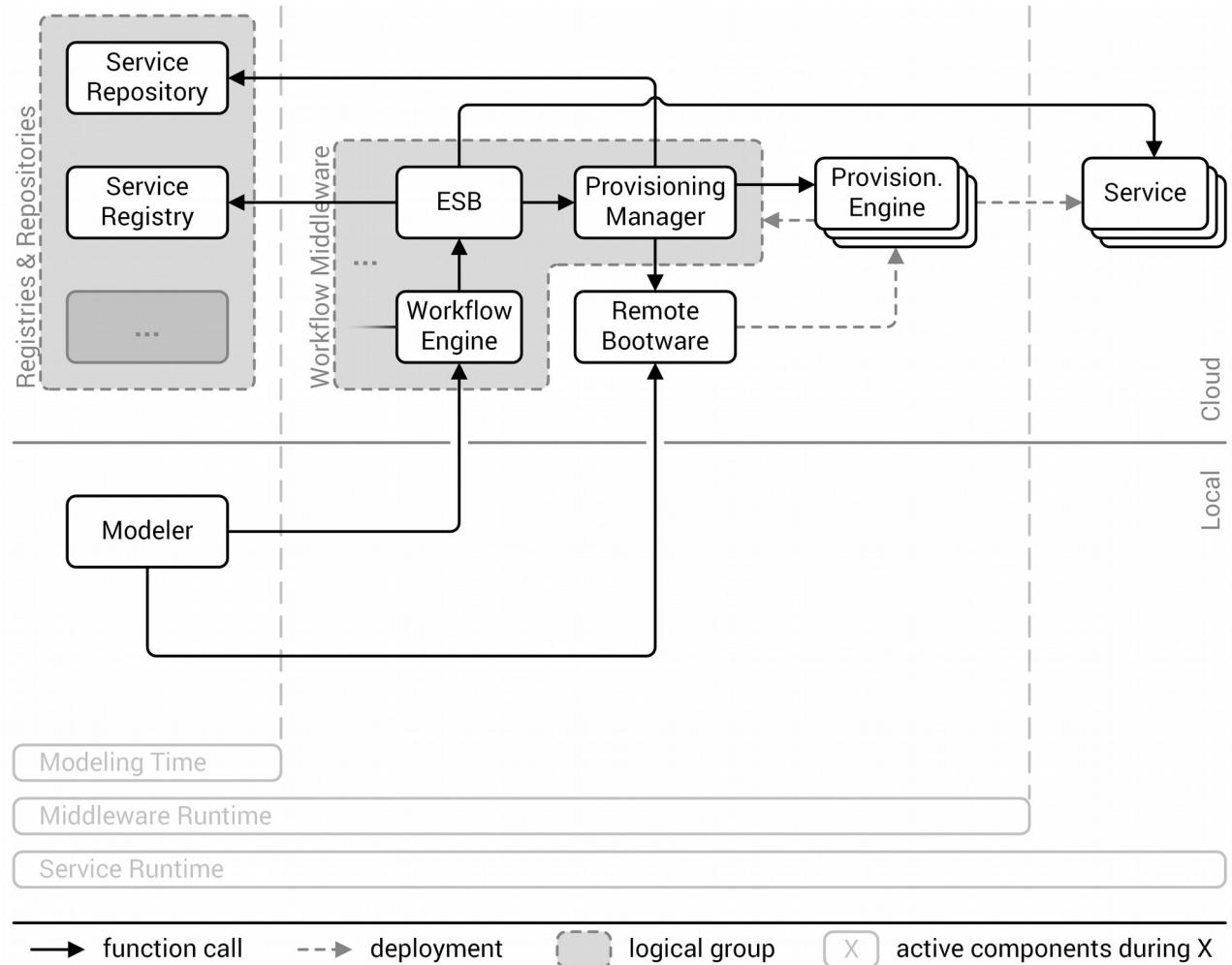
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Entwurf –

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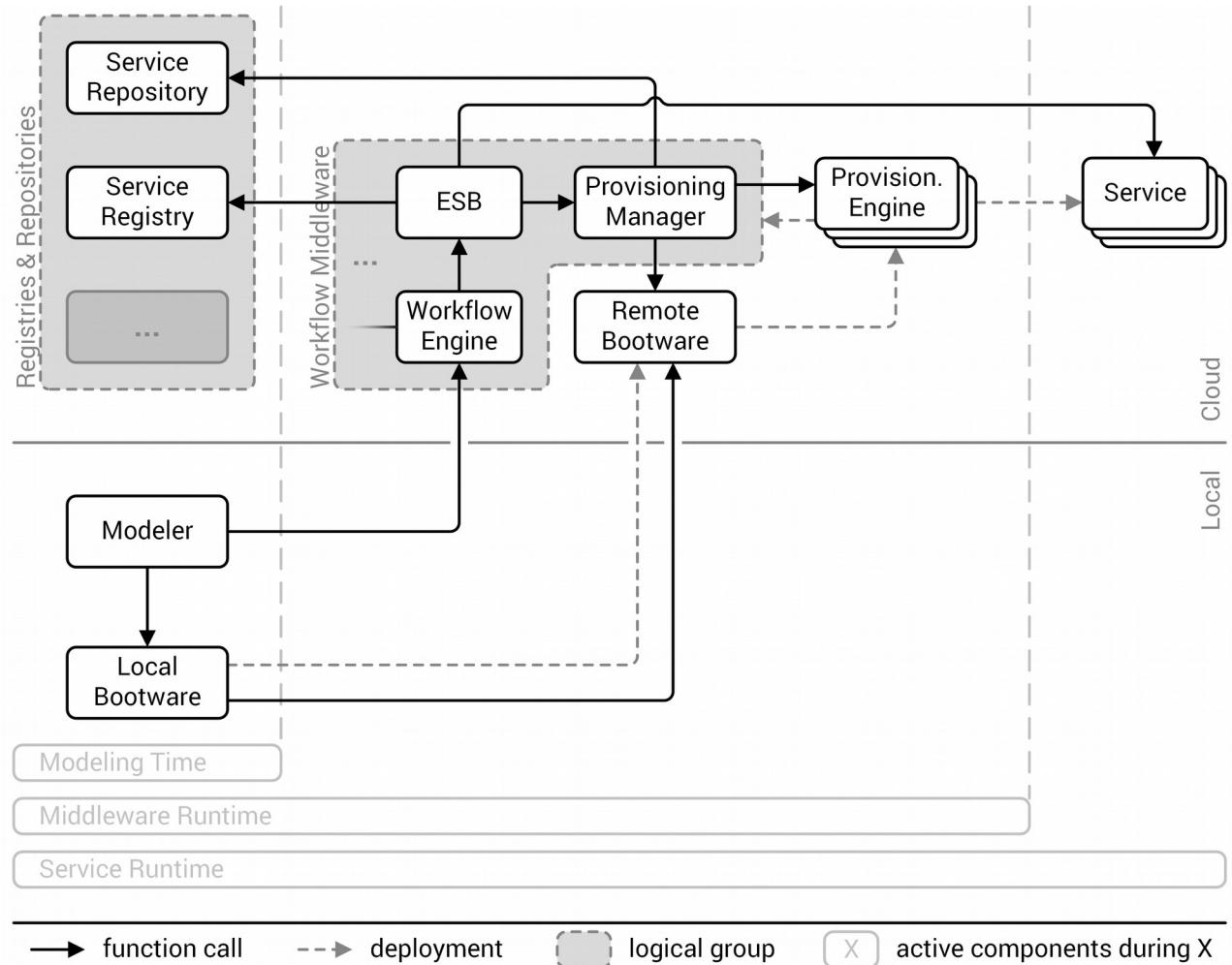
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Entwurf –

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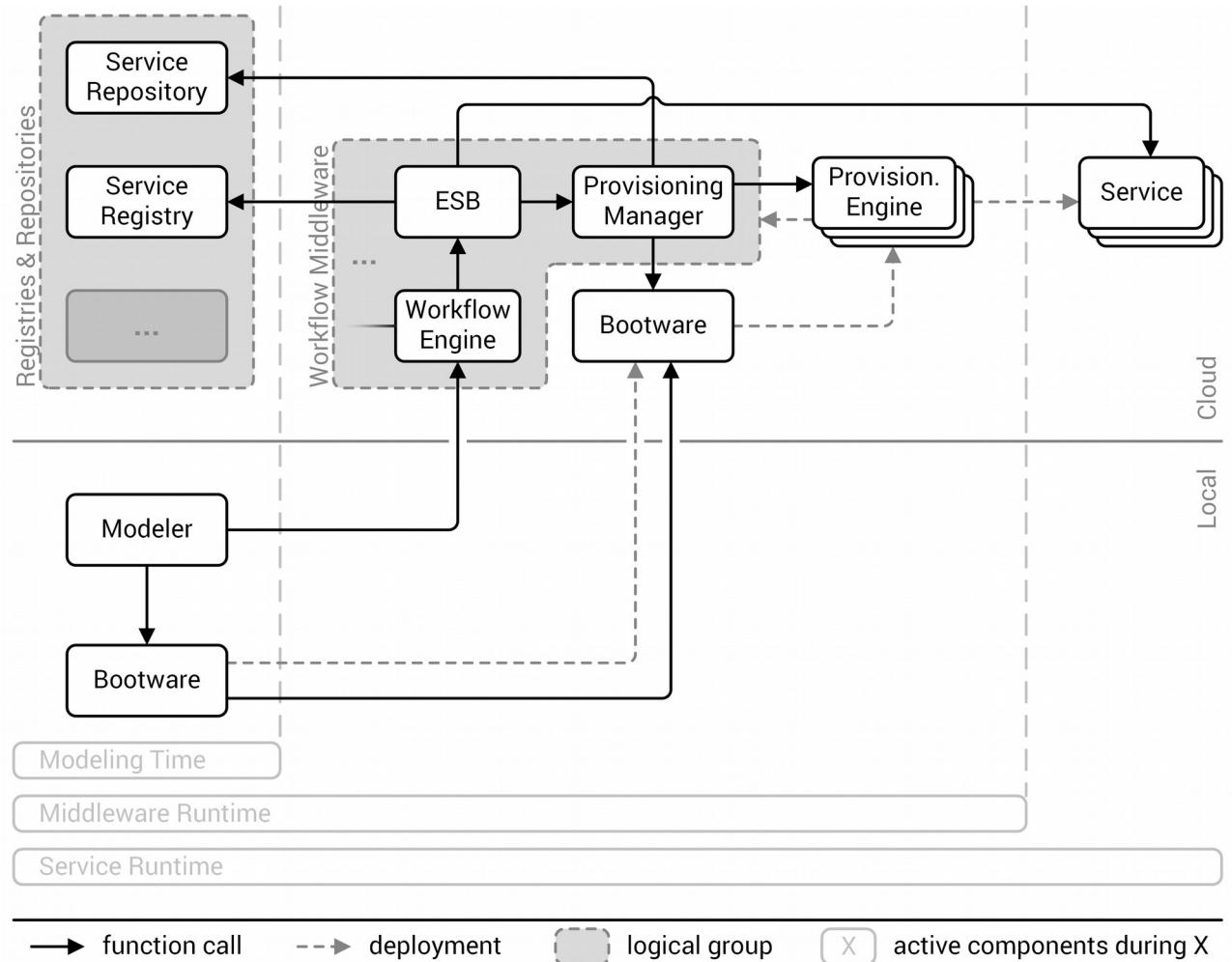
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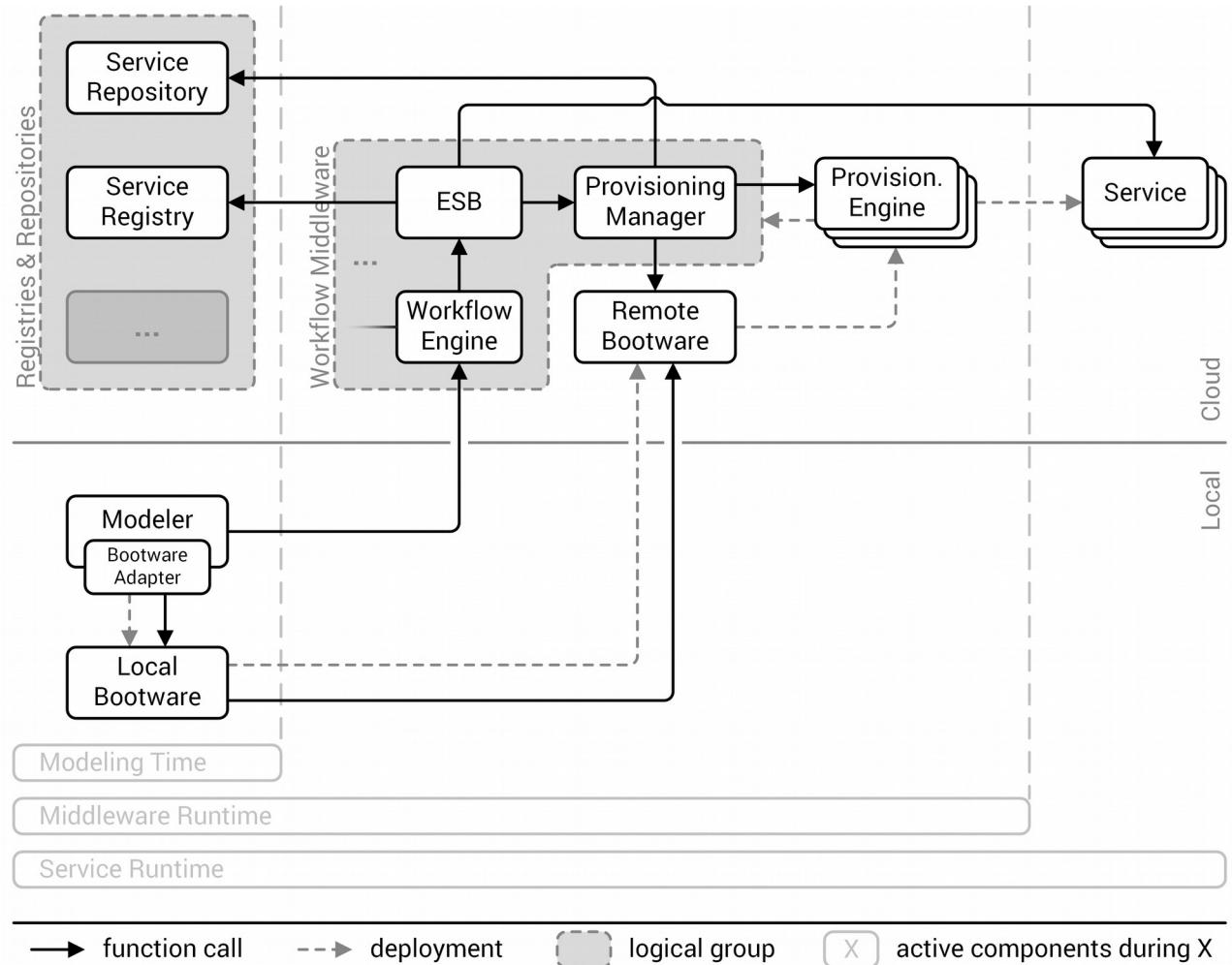
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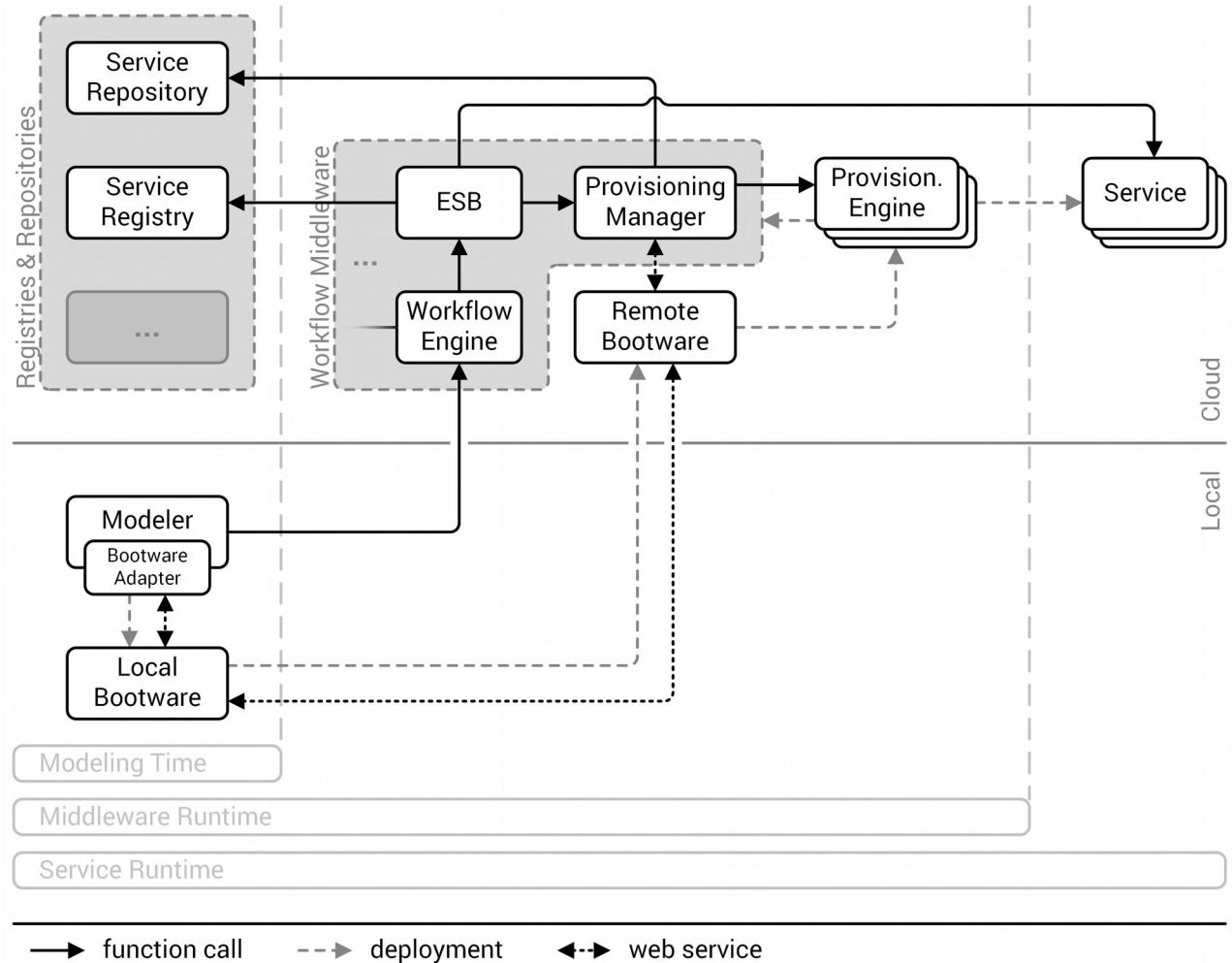
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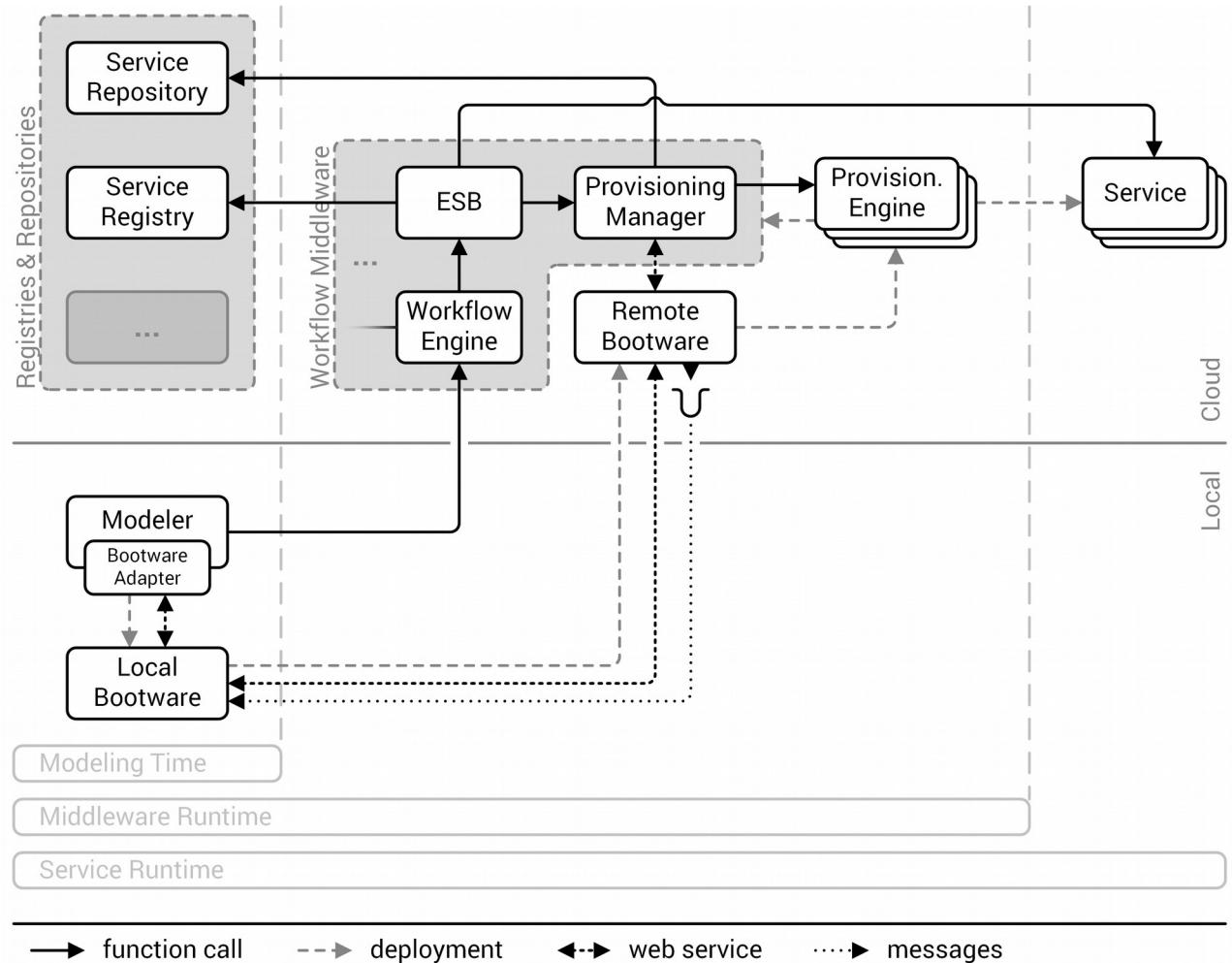
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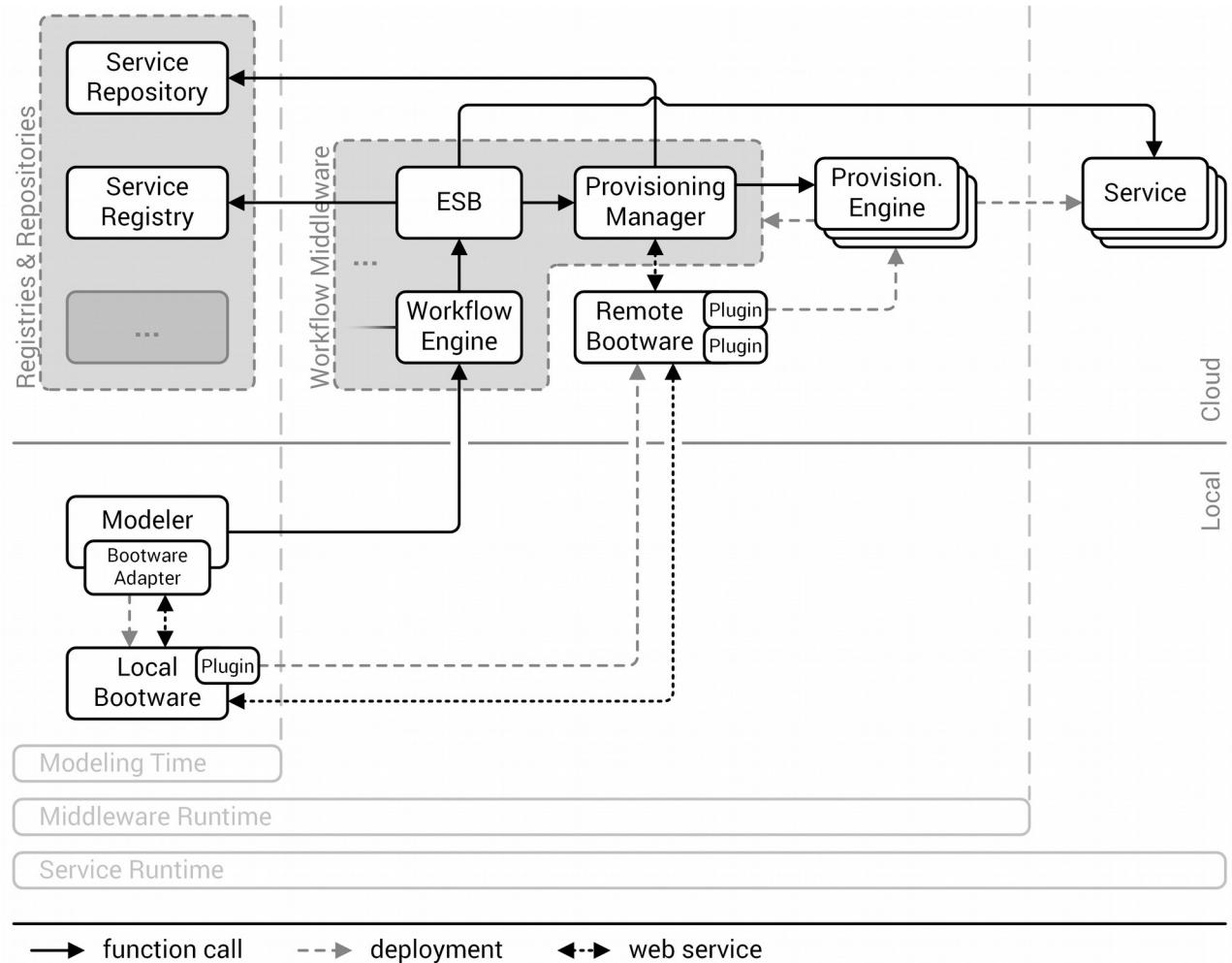
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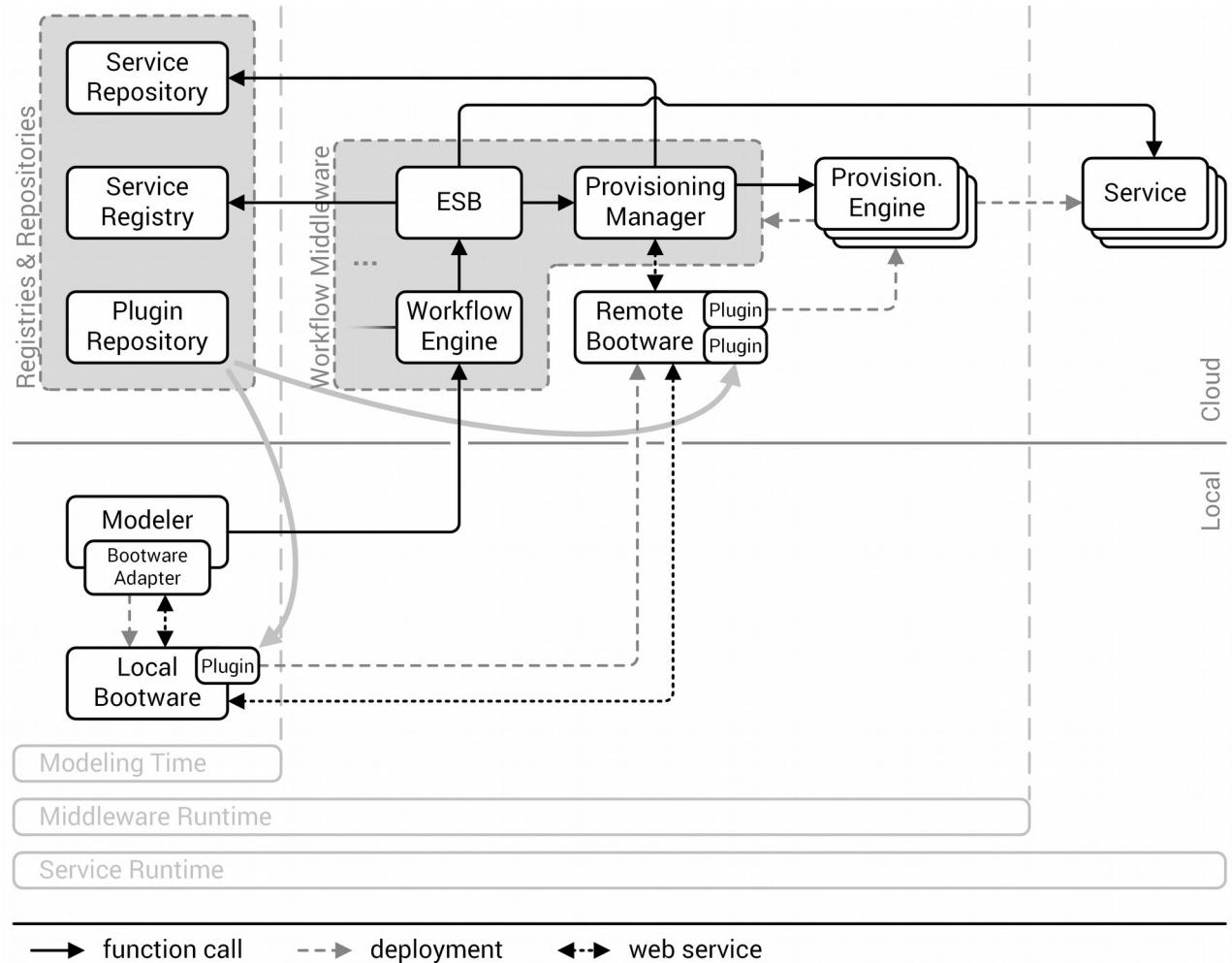
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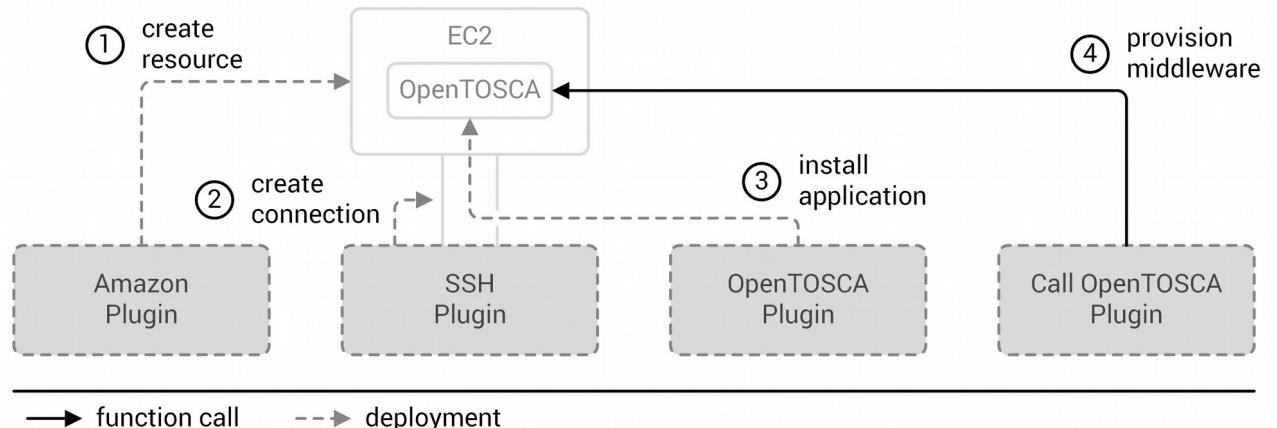
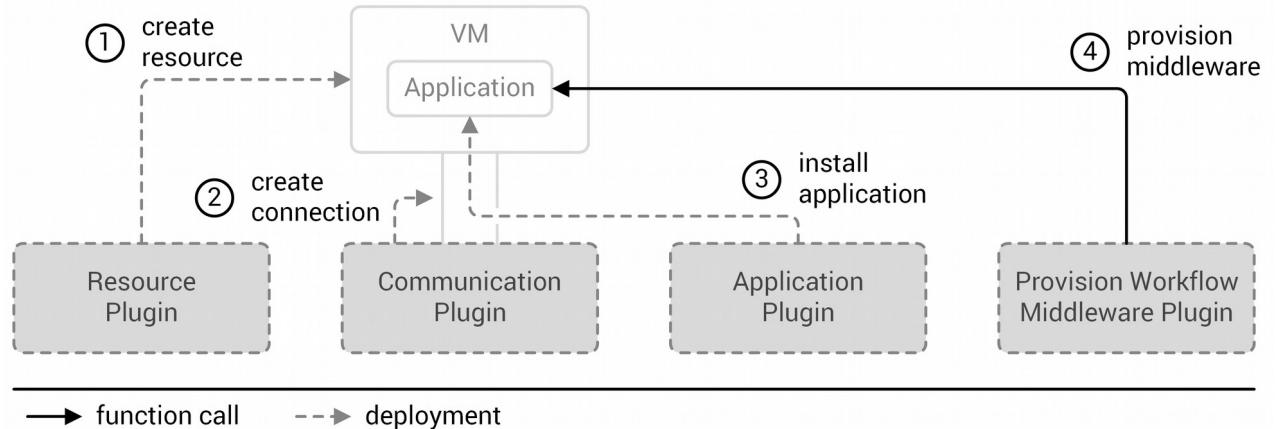
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Entwurf –

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Entwurf – Resource Plugins

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Entwurf – Communication Plugins

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Entwurf – Application Plugins

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Entwurf – Provision Plugins

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Entwurf – Event Plugins

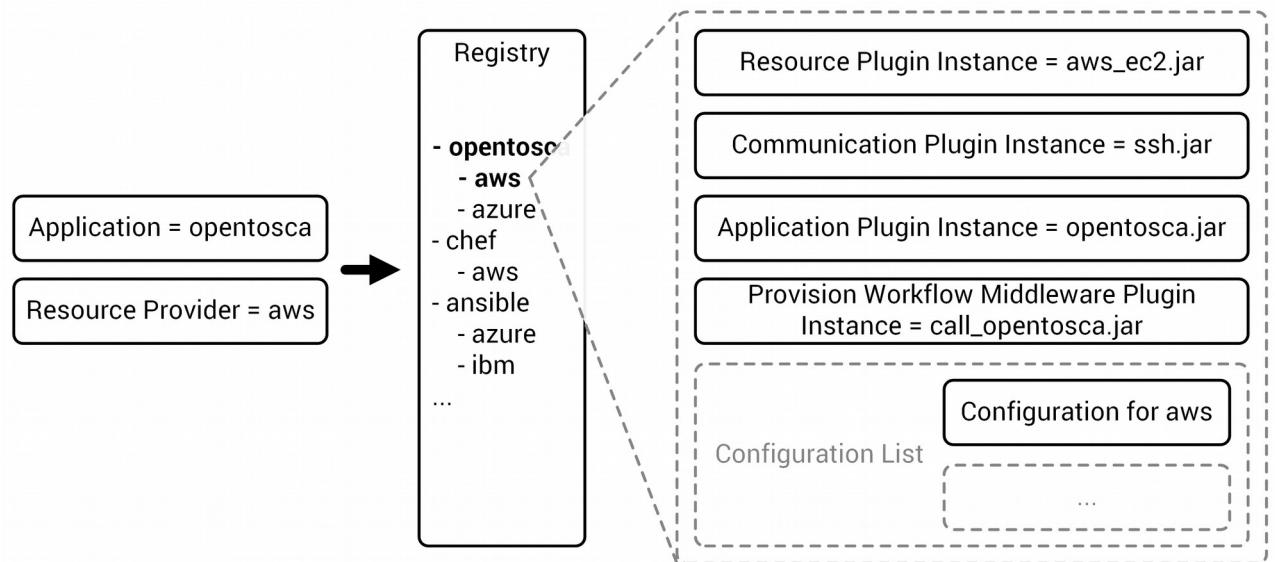
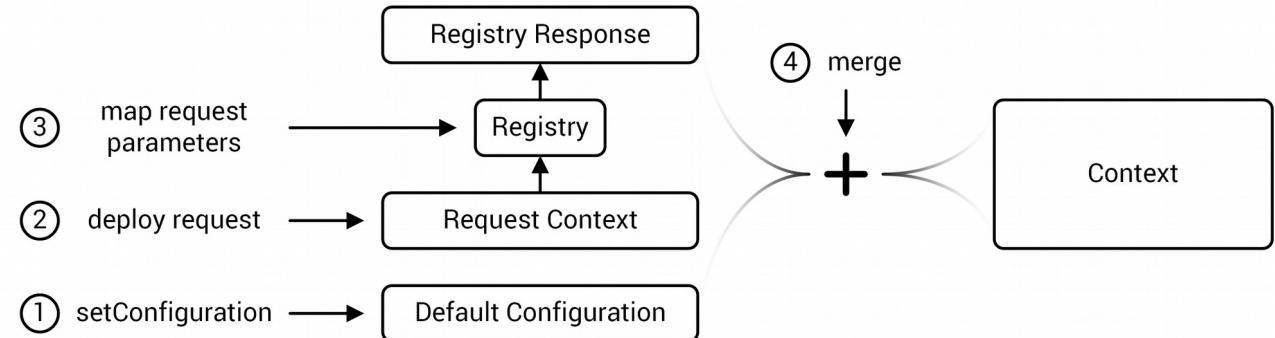
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Entwurf –

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Entwurf – Web Service Interface

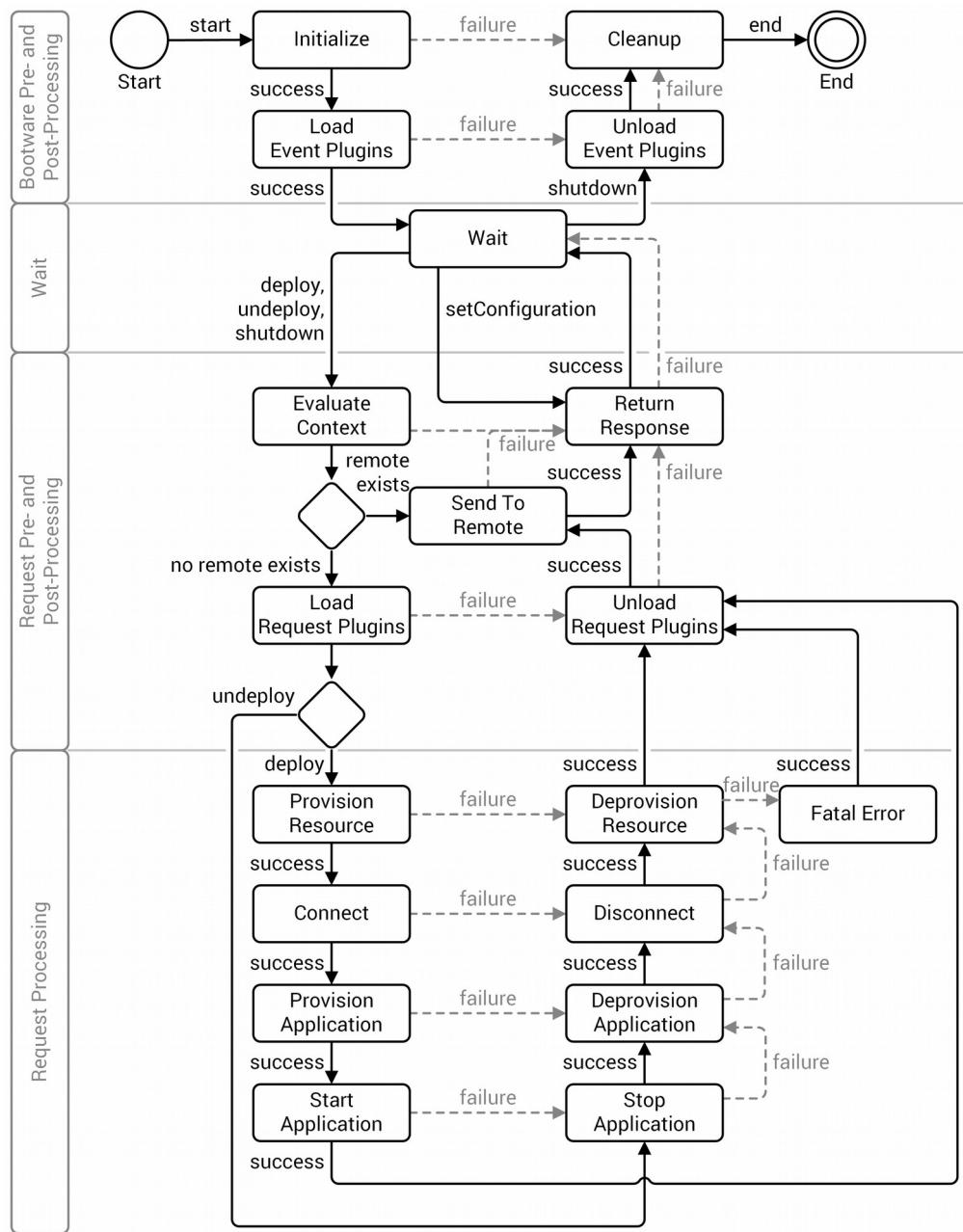
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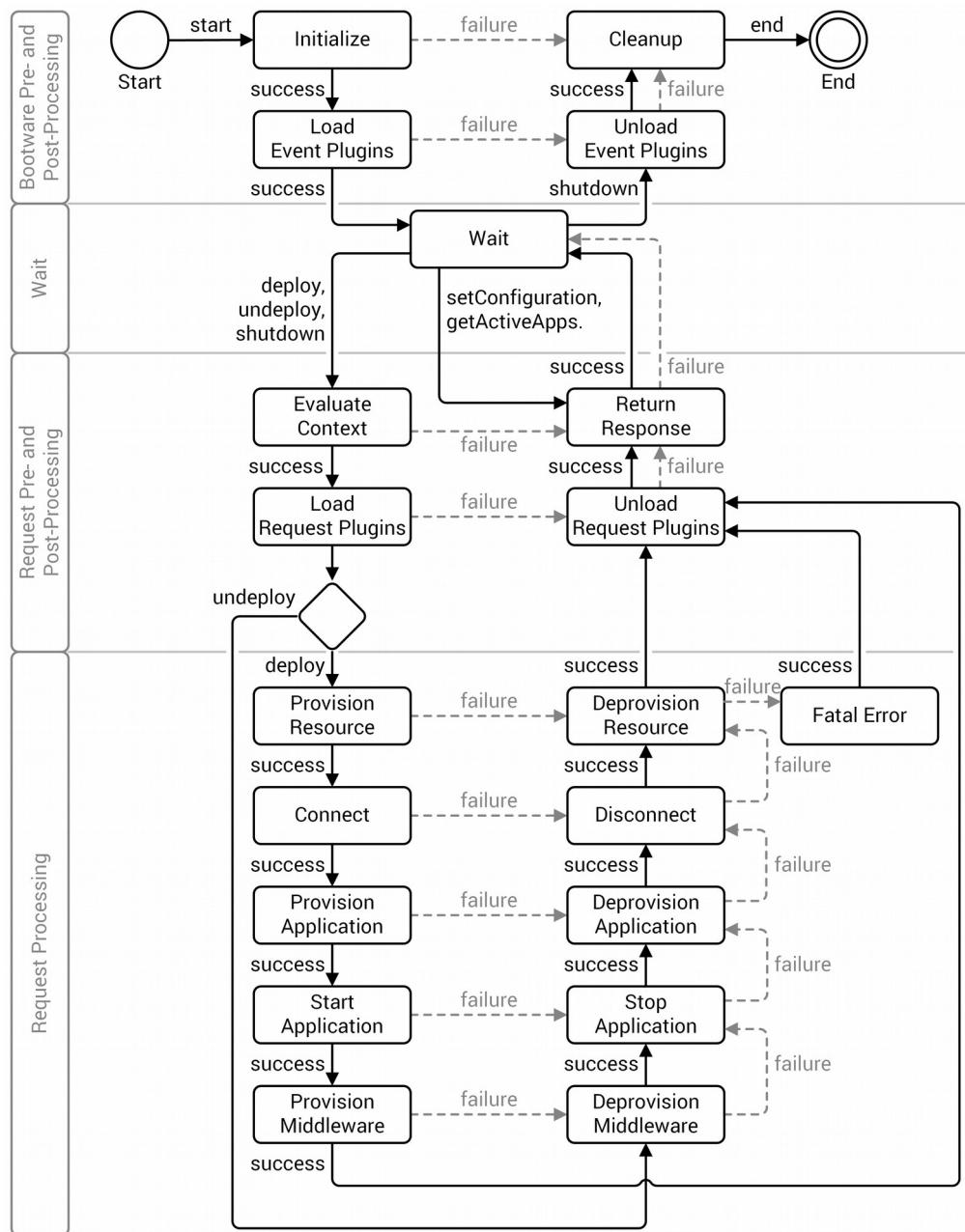
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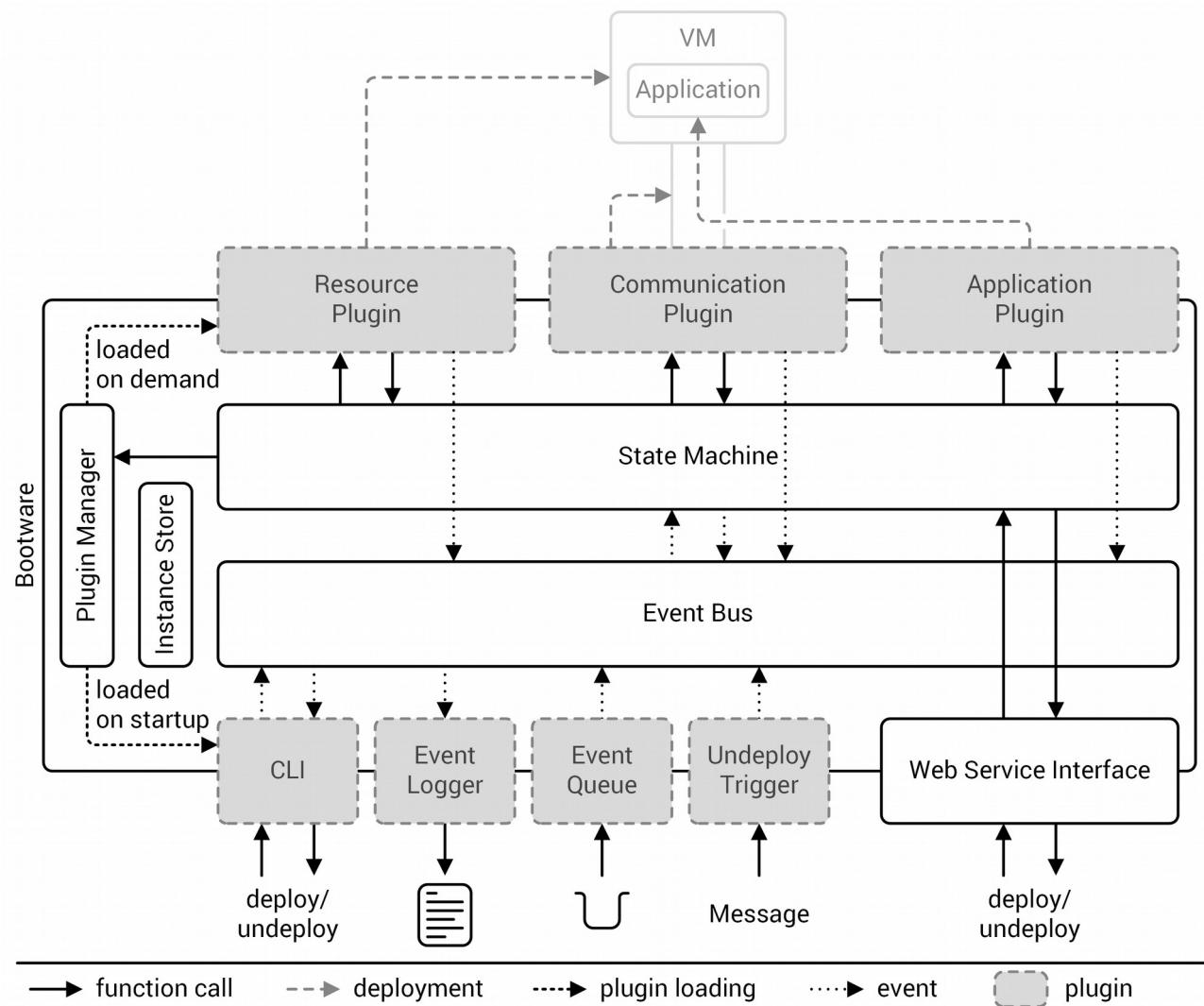
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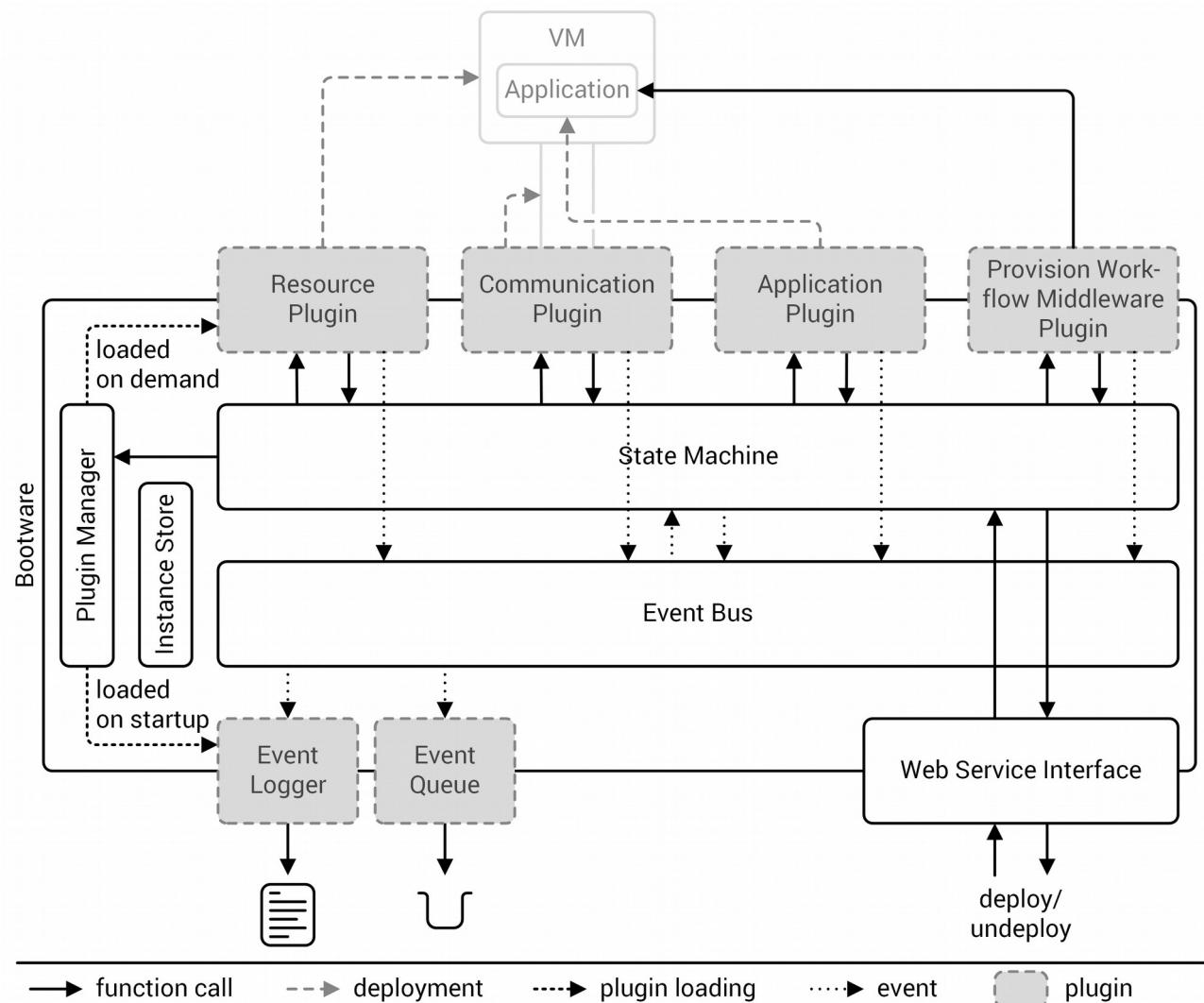
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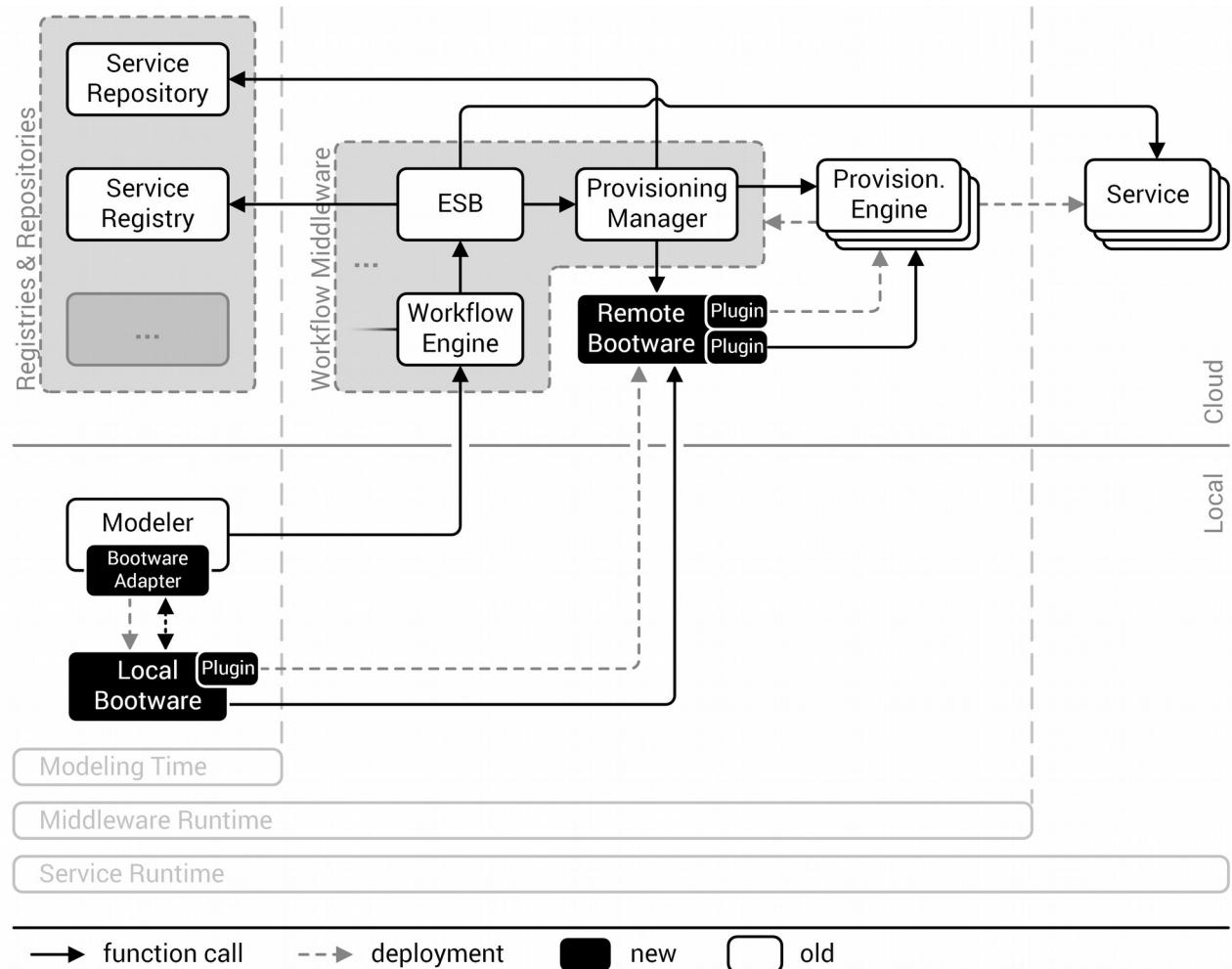
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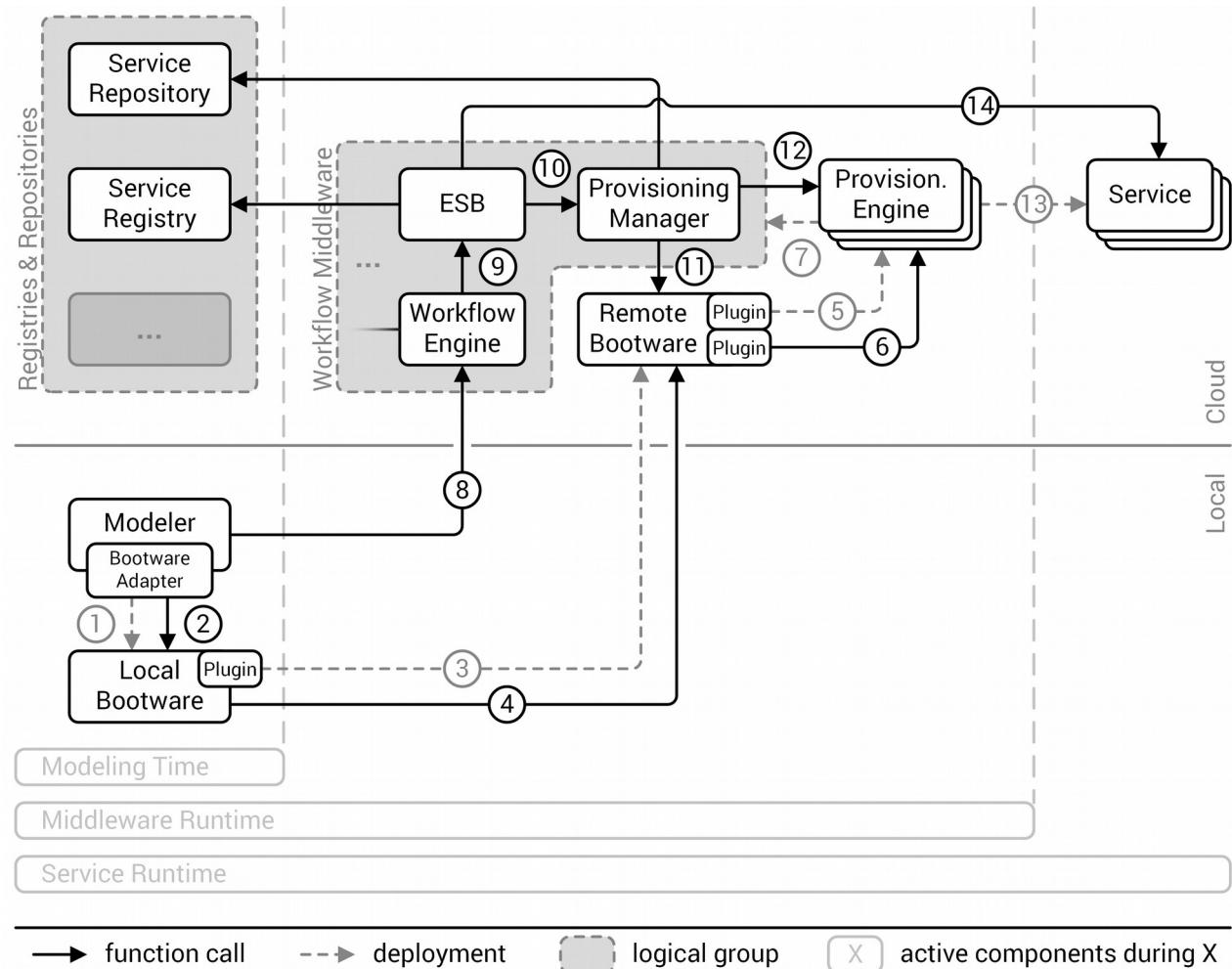
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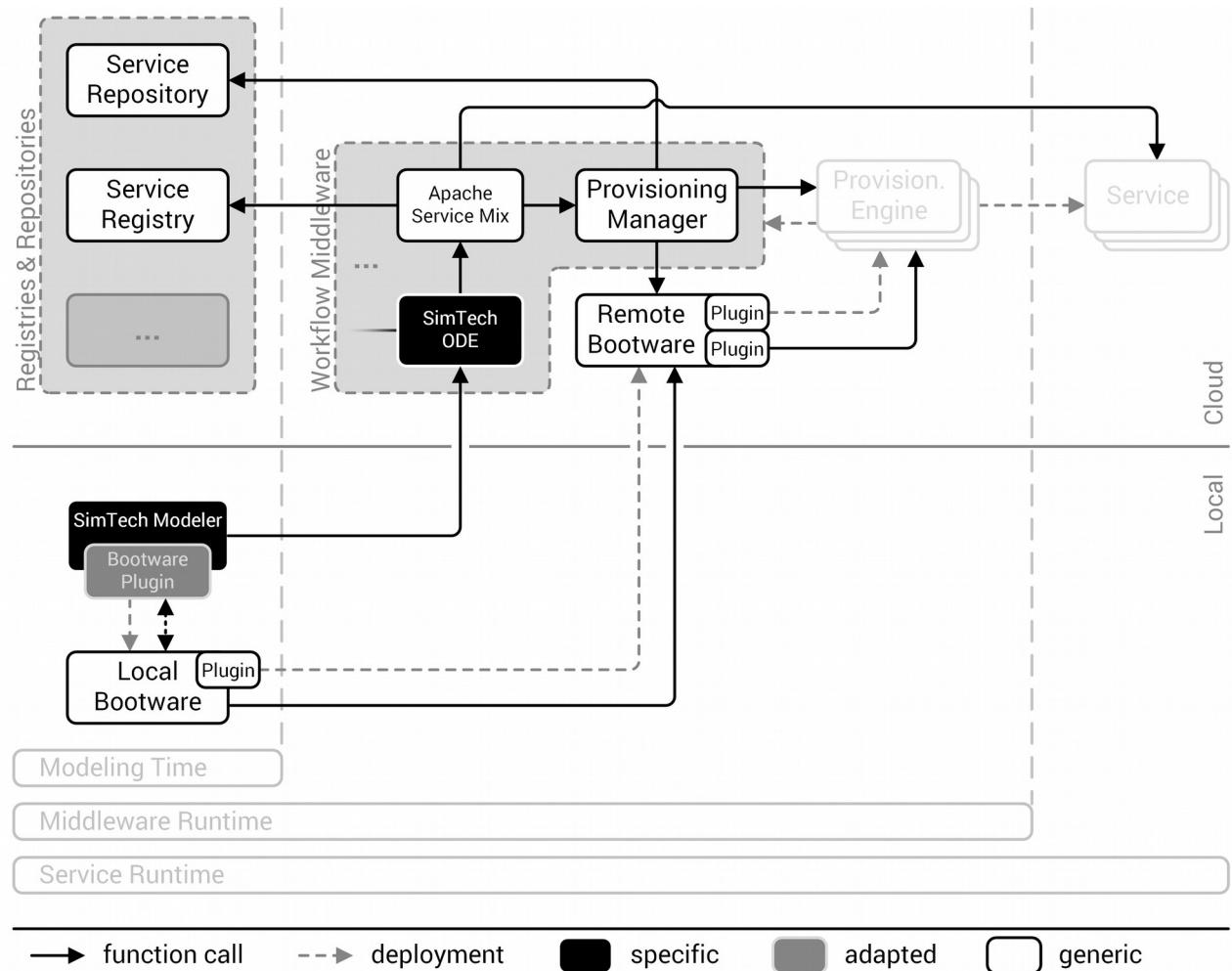


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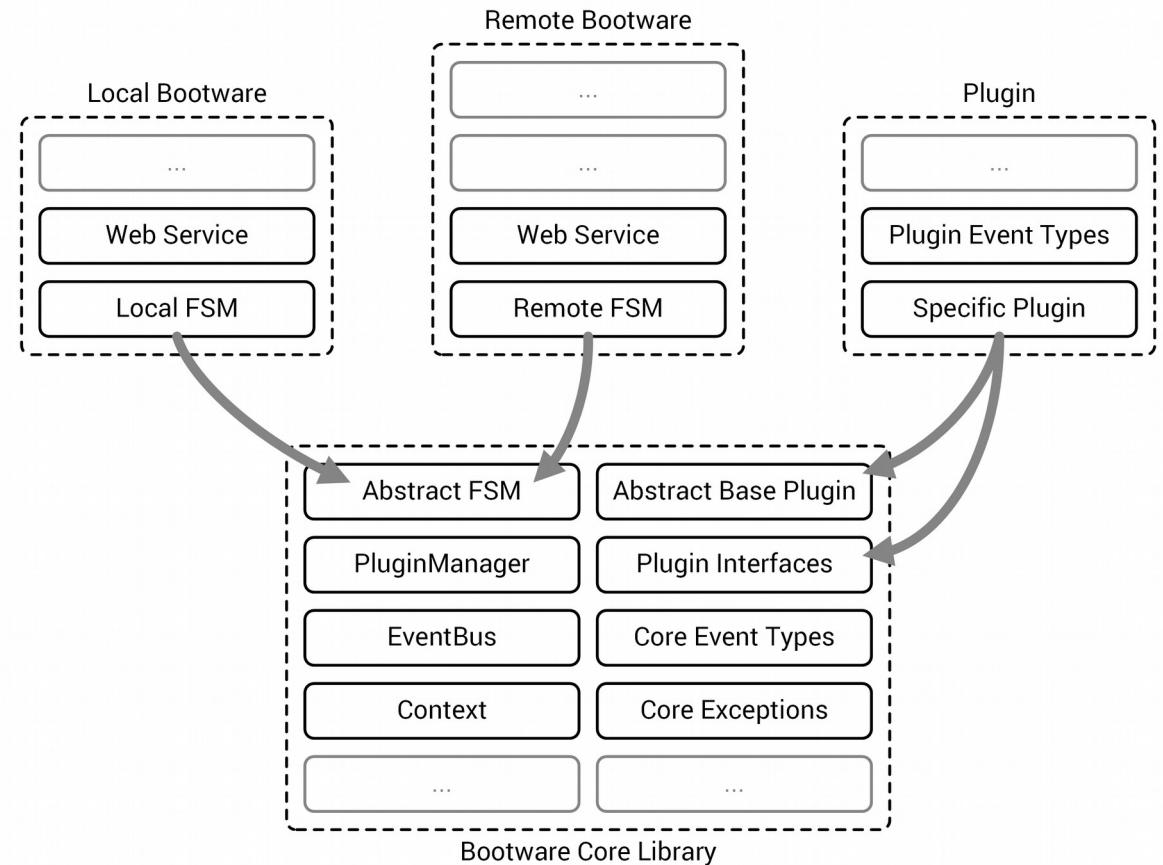
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Entwurf –

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Entwicklung – Modeler Integration

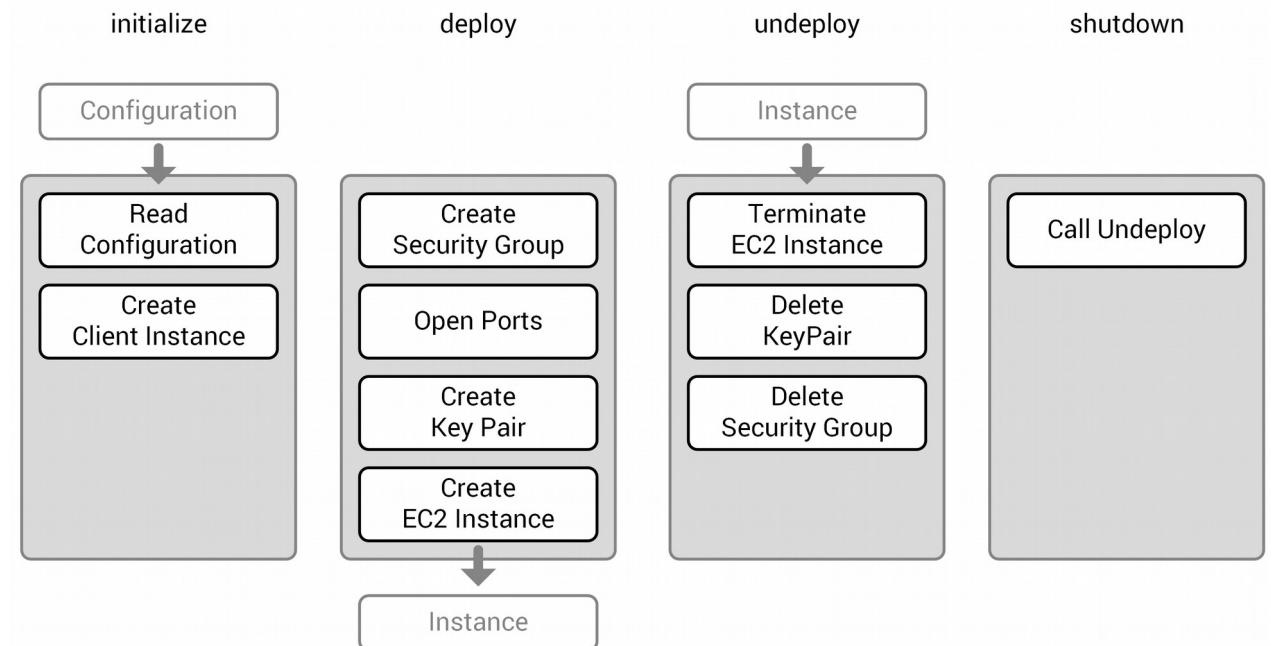
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Entwurf – Plugin Beispiel

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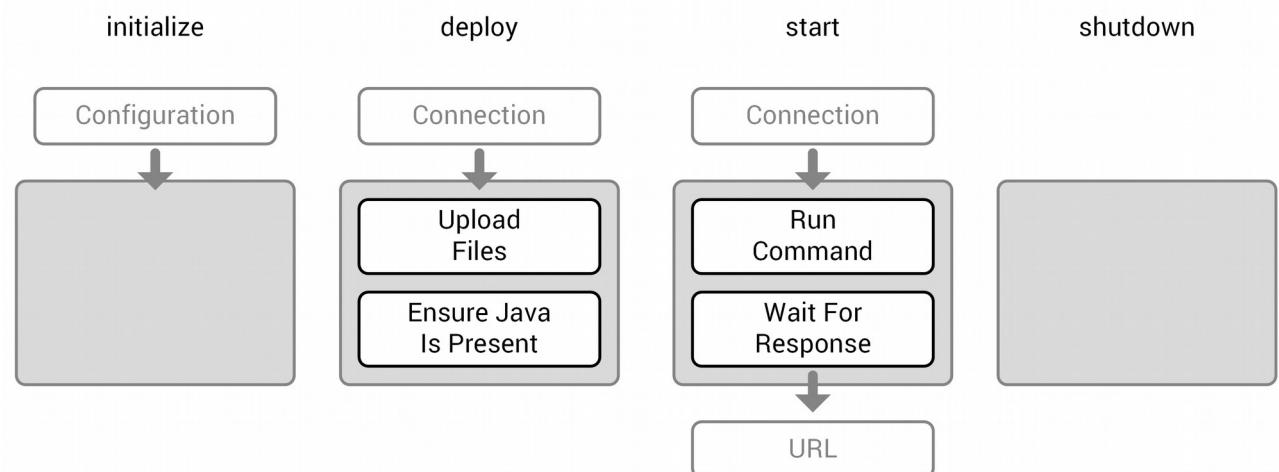
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Entwurf – Plugin Beispiel

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Live Demo