InLocation Alliance

ILA System Architecture

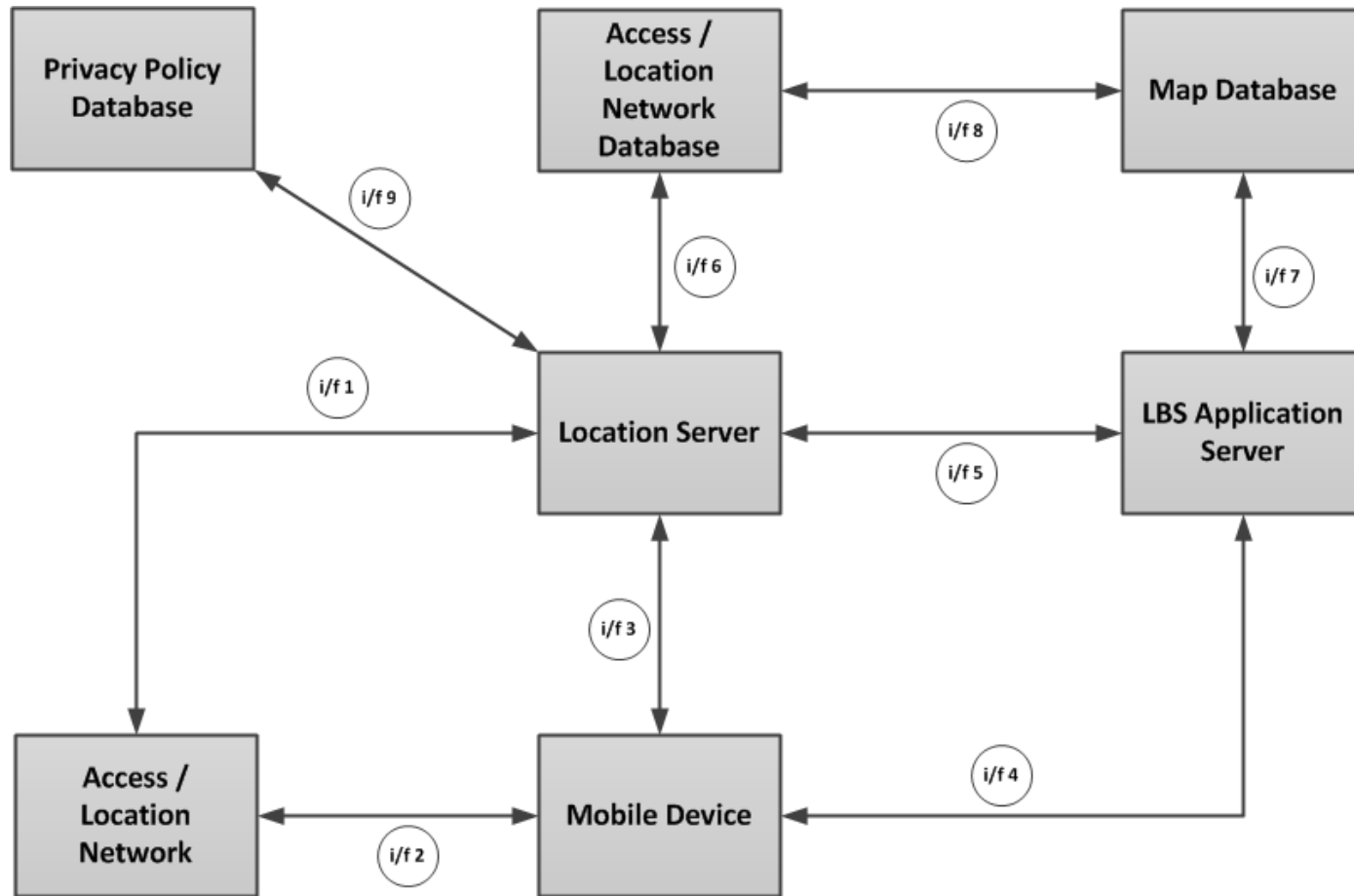## Release 1.0

Introduction

- The ILA System Architecture (SA) specifies the main components and interface requirements of a technology-independent system architecture for indoor location.

- The SA has been designed to support a wide range of venues: from the very small (e.g. stand-alone business) to the very large (e.g. corporate campus) to the very distributed (e.g. worldwide retail chain).

- The SA is based on open interfaces in order to support multi-vendor environments for indoor location.

- While the SA in itself is generic and technology agnostic, the focus of the first public release of the SA is on Wi-Fi and BT.

ILA System Architecture

System Architecture Network Elements (I)

- ## Mobile Device
  - An electronic device (nomadic or mobile) whose location within a venue is of interest to a location client residing on the Mobile Device or in the network.

- ## Location Server
  - A network server that provides a Mobile Device's location to a location client and/or provides assistance data to the Mobile Device. A Location Server generally supports both position calculation as well as assistance data provision.

- ## Access/Location Network
  - Any network that can be used for location but with current focus on Wi-Fi and BT.

- ## Access Location Network Database
  - A network data base that stores and provides an Access/Location Network almanac to the Location Server. The Location Server may use this information to calculate the Mobile Device's position and/or to provide assistance data to the Mobile Device.

System Architecture Network Elements (II)

- ## Map Database
  - A network data base that stores and provides map data used for location and/or presentation.

- ## LBS Application Server
  - A network server that provides location related content and services to a requesting entity and that is able to request and receive the position of a Mobile Device whose position is the subject of the location related content.
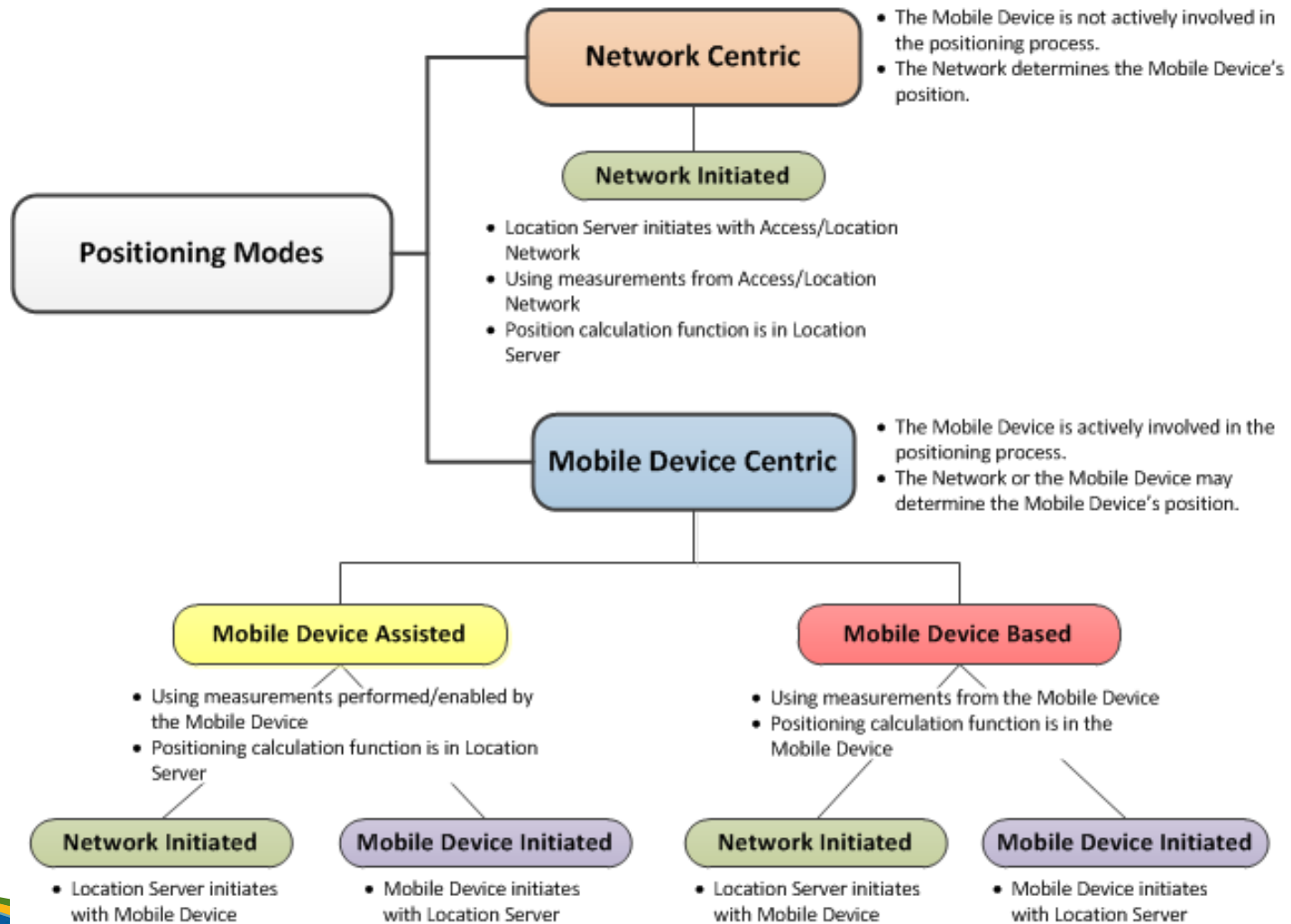
- ## Privacy Policy Database
  - A network data base that records and provides to the Location Server the privacy policies affecting a Mobile Device.
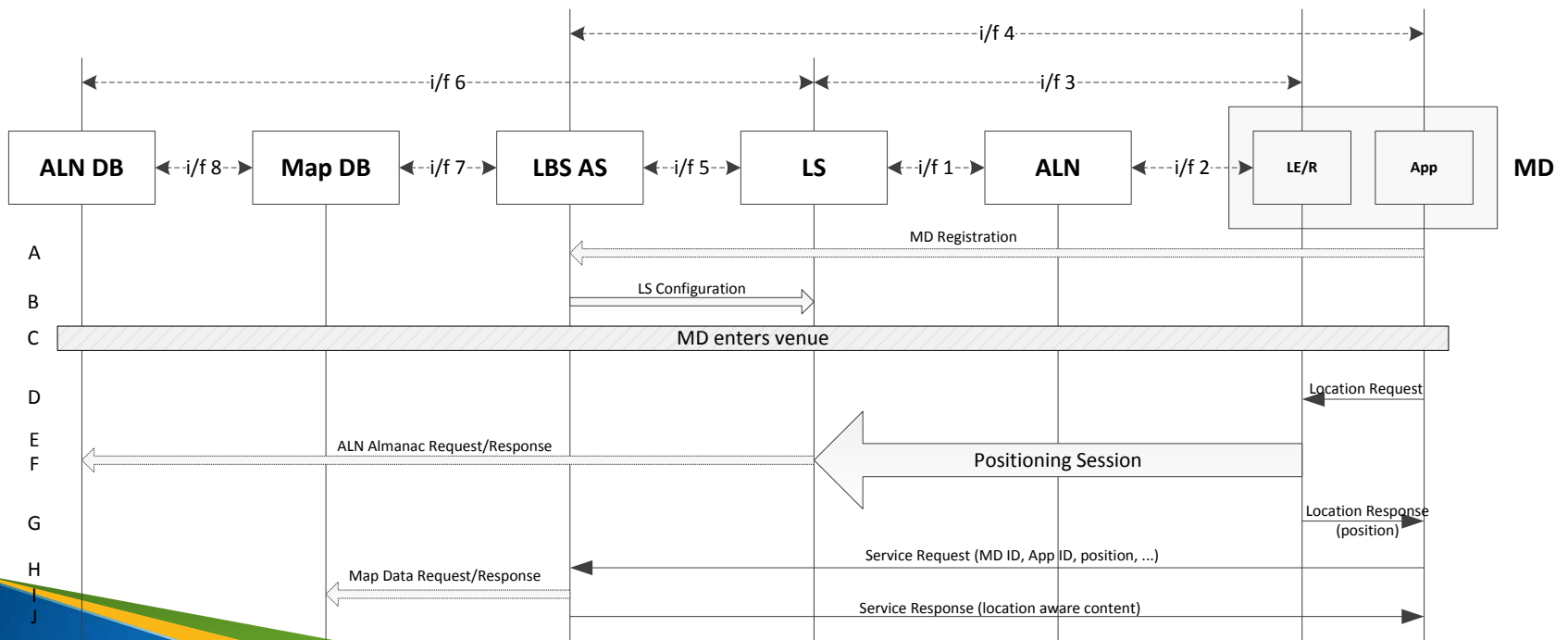
System Architecture Interfaces

- The ILA SA Interfaces are intended to be open interfaces enabling interoperability in a multi-vendor environment.
- The ILA SA White Paper provides a high level definition of the information that ILA Network Elements exchange across these interfaces.
- The ILA does not define the ILA SA Interfaces itself but is working with external Standards Developing Organizations to develop these interfaces (e.g. OMA for Interface 3 and 5, IEEE and BT SIG for Interface 2).

Supported Modes of Operation

End-to-End System Definitions

- The ILA SA White Paper provides high level end-to-end system level definitions using message flow diagrams for typical use cases.
- Example: Location Aware Content

Next Steps

▸ The ILA will continue to drive the architecture for indoor location based on market requirements and lessons learned from actual deployments.

▸ The ILA will continue to work with external SDOs to create open interface specifications supporting and enabling the ILA architecture.