Enterprise information is typically unwieldy. Data is exhaust from enterprise processes, which vary greatly across different groups in enterprises. Diversity of data sources, heterogenous environments, varying data security & application trust levels, and plurality of data viewing and navigation mechanisms compound the problem. Key to this problem lies in data normalization, but a method to normalize across data sources and types is a non-trivial challenge.

Sainapse has a unique approach to data normalization and it targets the problem at its root, which is generation of data at its varied sources, through a process of *modelling abstract data*. Sainapse leverages a concept of *data device (or information unit)*, which is any source of data, such as emails, cases or tickets in a CRM or ITSM tool, or documents of different formats. All these are ingested through consistent interfaces and data models.

To achieve normalization, consistent mapping of each (edge) data source through abstraction of data device is absolutely essential. This is achieved by the intelligence world view of Sainapse that transforms a data unit from multiple sources into its internal normalized view. Fields of data in different data devices can and do vary. However, Sainapse's internal normalized view of data has fixed fields which are mapped using a proprietary mapping function from fields of the original data device.

For instance, Sainapse maps subject of an incoming email query to Title, and body of the email to Description, which are critical fields for its primary purpose, i.e. recommendation. In this process, Sainapse’s internal view ignores fields it deems irrelevant to the purpose of Sainapse, such as Date or From fields in emails. A similar mapping of fields is done for other information units such as tickets in a CRM, or records in a SQLDB. This normalization enables Sainapse to treat different information units in a homogenous manner. Sainapse can hence learn from, and extract recommendations from any number of diverse data sources, and across heterogenous data formats. Sainapse information highway, called *InfoChannel*, enables hosting diverse data sources at the edge of Sainapse.

**SAINAPSE ARCHITECTURE – DESIGNED FOR EASE OF ADOPTION, COMPLEXITY AND SCALE**