GovStack Definitions: Understanding the Relationship between Digital Public Infrastructure, Building Blocks & Digital Public Goods

In 2021, the Digital Public Goods Alliance (DPGA) convened the GovStack Community of Practice (CoP), co-chaired by GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit). The purpose of this CoP is to identify and support the advancement of digital public goods with relevance to a "whole of government digital transformation approach", or GovStack. This work is also in direct support of the GovStack Initiative, which focuses on enabling countries to kickstart their digital transformation journey by adopting, deploying, and scaling digital government services.

In order to begin this work it became crucial to first create an aligned understanding of the key definitions and relationships between terms and concepts that are relevant to the GovStack and therefore a whole-of-government approach to digital development. This report aims to create a common understanding of the key definitions and relationships between key terms and concepts, namely digital public infrastructure, building blocks and digital public goods.

The document below defines these terms and provides insight on their relationship with one another. Thank you to DPGA's GovStack CoP members listed within this document for helping to create these aligned concepts and definitions.

Digital Public Infrastructure (DPI)

Solutions and systems that enable the effective provision of essential society-wide functions in the public and private sectors.

- This includes but is not limited to digital forms of ID and verification, civil registration, payment (digital transactions and money transfers), data exchange, and information systems (including sector-specific like health or education).
- A country's digital public infrastructure may include implementations of multiple proprietary and/or open-source solutions (including digital public goods).

"The Philippines' digital public infrastructure includes a digital identity system, called PhilSys which is an implementation of the digital public good MOSIP."

"Estonia's digital public infrastructure for digital data exchange is powered by X-Road which is a digital public good."

Resources:

- Digital Public Goods Alliance, Norwegian Ministry of Foreign Affairs, The Rockefeller Foundation: *Co-developing Digital Public Infrastructure for an Equitable Recovery*
- Govind Shivkumar, Kevin O'Neil, Liv Marte Nordhaug: *How to bring digital inclusion to the people who need it most*

Building Blocks

Software code, platforms, and applications that are interoperable and provide a basic digital service at scale, and can be reused for multiple use cases and contexts.

- Serves as a component of a larger system or stack.
- They can be used to facilitate the delivery of digital public services via functions, which may include, registration, scheduling, ID authentication, payment, data administration, and messaging.
- Building blocks can be combined and adapted to be included as part of a stack of technologies to form a country's DPI.
- Building blocks may be open source or proprietary and therefore are not always DPGs.

"Building blocks can be as simple as a common set of rules or protocols (for example email programs like Simple Mail Transfer Protocol - SMTP), or complex (for example an open-source health information system like the DPG, District Health Information Software - DHIS2)"

Characteristics of building blocks:

- Autonomous: building blocks provide a standalone, reusable service or set of services, they may be composed of many modules/microservices.
- Generic: building blocks are flexible across use cases and sectors.
- Interoperable: building blocks must be able to combine, connect, and interact with other building blocks.
- Iterative evolvability: building blocks can be improved even while being used as part of solutions.

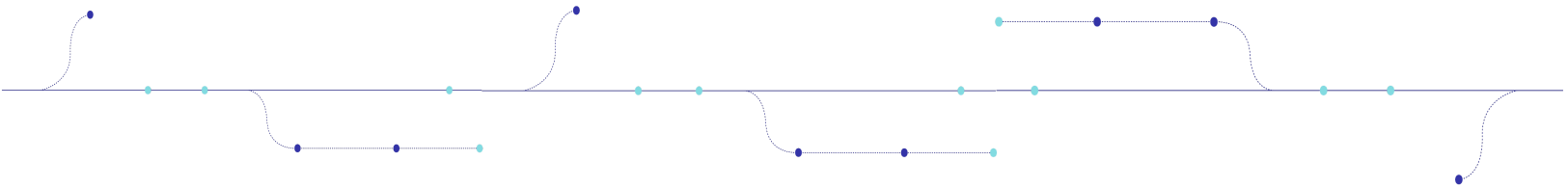
Requirement:

To be considered a building block, solutions must meet the *technical requirements* determined by the GovStack Initiative which as of April 2022 includes:

- Open API, Open API Specifications, Rest API
- Packaged in a container
- Include a information mediator where communication is restricted through a information mediator

Resources:

- Anit Mukherjee and Shankar Maruwada (originally published by Centre for Global Development): *Fast-Tracking Development: A Building Blocks Approach for Digital Public Goods*
- European Commision*: Connecting Europe Facility: What is a Building Block ?*
- GovStack Initiative: *Context*
- The Open Group: *TOGAF Standard V9.2: Introduction to Building Blocks*



Digital Public Goods (DPG)

Digital public goods are open-source software, open data, open AI models, open standards, and open content that adhere to privacy and other applicable laws and best practices, do no harm by design, and help attain the Sustainable Development Goals (SDGs).

- DPGs may be implemented as a part of a countries' digital public infrastructure. When they provide a generic service at scale, they may be considered building blocks.
- DPGs may also advance the SDGs but not contribute to public service delivery or be customizable across multiple use cases. Therefore, DPGs are not always building blocks and may not be implementable as digital public infrastructure.

"RapidPro is an open-source platform that facilitates the building of interactive messaging systems using a visual interface, it meets the DPG Standard and is therefore a DPG"

"OpenCRVS is a DPG software for civil registration, designed for low resource settings, it can be implemented by a government as part of digital public infrastructure"

"Kindly is a DPG API that detects abusive and cyberbullying intent in messages and provides instant feedback for users to reconsider their message."

Requirements:

To be considered a DPG, solutions must meet the DPG Standard, a set of nine indicators that are used by the DPGA to determine whether a solution is a digital public good.

Resources:

- United Nations: *Secretary-Generals Roadmap for Digital Cooperation*
- *Digital Public Goods Alliance: Digital public goods in action and why they matter*

Comparison Table

The table below is intended to highlight areas in which these terms are similar and dissimilar to one another.

	Digital Public Infrastructure (DPI)	Digital Public Good (DPG)	Building Block
What does it do?	Facilitates and manages the operation of a digital society	Advances the Sustainable Development Goals (SDGs)	A component that provides a generic digital service at scale and is reusable across use cases and sectors
What does it enable?	A widely useful whole-of-government approach to digital development that enables societal functions across sectors	Attainment of the Sustainable Development Goals (SDGs) across and within sectors	A widely useful whole-of-government approach to digital development that enables societal functions across sectors
What are the licensing Requirements?	None (may include a combination of solutions with diverse licences)	Open source (accepted licence defined in the DPG Standard)	None

Who reviews solutions against this definition?	There is no review process for determining DPI	Reviewed by the DPGA, against the DPG Standard	Reviewed by GovStack Initiative as Building Block Compliant

Contributors

With deep gratitude, we thank all the DPGA's GovStack CoP members, listed below, for contributing to and helping to inform the taxonomy needed to move this work forward:

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