# DIGITÁLNÍ A INFORMAČNÍ AGENTURA_

## Export z Národní architektury eGovernmentu ČR

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# Introduction

The National Architectural Plan (also known as "NAP") is being put into your hands as a basic tool and manual for the processing, unification, management and development of architecture both at the central level and in individual authorities. The NAP does not tell you how to manage ICT, or how to manage project portfolios, or how to create an information concept. The NAP describes a substantive and technological view of the interconnection of public administration systems with central shared eGovernment services and defines what the administrators of information systems should do within their competence and architecture to be in line not only with the current state of Czech eGovernment, but also with its planned state.

In order to develop all the capabilities and skills of public administration, including the development of digital services of the public administration, it is necessary to manage public administration as an interconnected complex system of services provided by public administration bodies with an overview and in the overall context. As most of the transformation steps of the state, as with business corporations, are currently enabled only with the help of ICT - the digitalization of processes and services, the overall architecture of public administration bodies, their offices and public corporations, is both a means of developing and managing transformational change and a means of managing and developing ICT to support these changes in the long term.

The mission of eGovernment is to:

"*To provide services to the clients of public administration in the most efficient way, making it as easy as possible for them both to achieve their rights and entitlements and to fulfil their obligations and commitments in relation to public administration*".

The role of authorities and officials, supported by information systems, is to be servants and advisors, guides for clients on their journey to fulfil their obligations and achieve their entitlements.

Government is an activity related to the provision of public services, the management of public affairs at local and central level and the provision of matters of public interest. When the provision of public services is delivered electronically and there is **digital interaction** between the public and the public administration we talk about eGovernment, **electronic public administration**, which uses information and communication technologies to deliver electronic public services to citizens and businesses. In a broader sense, we consider eGovernment to be all electronic public administration processes, including internal processing of agendas and operational processes.

The public interest objective is therefore **faster, more accessible, more reliable and cheaper** public administration services that are better aligned **in content and process** thanks to their electronic form, **shared** by public administration entities, **trusted** by both sides of the interaction, **connected** to cover life situations and **accessible** from anywhere by secure forms of communication.

The IKCR and NAP builds in particular on the eGovernment objectives formulated in the Strategic Framework for the Development of Public Administration of the Czech Republic for the period 2014-2020 and its action plans, on the now abolished Strategy for the Development of ICT Services of Public Administration (Government Resolution of 2 November 2015, No. 889), Government Resolution of 27 January 2020, No. 86, and especially on the Information Concept of the Czech Republic (Government Resolution of 3 October 2018, No. 629).

## Department of the Chief eGovernment Architect of the Ministry of the Interior of the Czech Republic

The Department of the Chief Architect of eGovernment of the Ministry of the Interior of the Czech Republic (also referred to as "OHA"), as a supra-ministerial eGovernment architectural unit, elaborates the principles set out by the Government of the Czech Republic in the Information Concept of the Czech Republic (also referred to as

"ICCR") into reference models, binding architectural models and other documents of the National Architectural Plan.

This information is subsequently used by public authorities (also referred to as "OVS") to draw up information concepts for their offices and the resulting project plans. According to the relevant provisions of the Act on Public Administration Information Systems (also referred to as "PIS Act"), the OAGs are obliged to request OHA's approval of draft documentation for programmes containing the acquisition or technical evaluation of public administration information systems, investment plans for public administration information system acquisition or technical evaluation projects or public administration information system projects intended for the exercise of public administration. The organisational units of the State are still obliged to apply for approval of ICT expenditure plans in accordance with the relevant provisions of Government Resolution No 86 of 27 January 2020.

In accordance with the requirements of the Law on ISMS and the above-mentioned Government Resolution, OHA issues opinions on these requests, in particular on the basis of an assessment of the conformity of the architecture of the submitted plans with the objectives and rules of the ICCR, the NAP and other related OHA documents.

# Information Concept of the Czech Republic

The Information Concept of the Czech Republic is the basic document which sets out, on the basis of the authorisation under Section 5a(1) of Act 365/2000 Coll., on public administration information systems, **the objectives of the Czech Republic in the field of public administration information systems** (also referred to as ISVS) and the general **principles of acquisition, creation, management and operation of public administration information systems** in the Czech Republic. The ICCR is updated in five-year cycles and is always approved by the Government.

In order to effectively implement the objectives of the Czech Republic in the field of public administration information systems, the ICCR establishes the National Architecture of the Public Administration (also referred to as "NA"), the National Architectural Framework of the Public Administration (also referred to as "NAR") and the National Architectural Plan of the Public Administration as a means of describing the architecture of public administration bodies and the architecture of public administration information systems used by them. The NAR and NAP describe the basic tools for the formulation of the objectives and principles of the Information Concept of the Czech Republic and the information concepts of individual public administration bodies.

In the follow-up document No. 1: **Methods of ICT management of public administration of the Czech Republic** the ICCR defines the rules, including the bodies and roles responsible for their application throughout the life cycle of ICT services of public administration, i.e. it defines the rules of strategic IT management, planning, preparation and implementation of ICT projects, operation of ICT services, management of the economy and security of ICT services and the rules of control and audit (governance) of ICT. In this annex, the ICCR also defines the basic requirements for the management and development of public authorities and their IT services so that they are better able to meet the objectives of the development of public administration information system services and manage their life cycle.

In the follow-up document No 2: **Glossary of eGovernment terms**, the ICD introduces a uniform interpretation of terms and their possible synonyms from the legislation in force, which are needed as one of the tools for coordinated eGovernment development according to the National Architectural Plan and for coordinated management of public administration informatics.

In the follow-up document No. 3: **National Architecture Framework**, the ICD introduces a binding methodology for modelling, maintaining and using the description of the architecture of public administration bodies.

In the follow-up document No. 4: **National Architectural Framework**, the ICCR provides public administration authorities - administrators of information systems - with a clear and concrete idea of what the informatics of

the public administration will look like in a specified horizon of 5 years, which elements of the informatisation of the public administration will be central and shared, which local elements must be uniform according to the submitted models and which may be arbitrary, their interrelations and continuity while observing the specified architectural principles.

Public administration bodies shall develop their information concept according to the ICCR and its annexes. The information concepts of public administrations must be in full compliance with and based on the ICCR. Within the NAP, each part of the chapters Methods of use of shared services, functional units and thematic areas by individual authorities and Authority architecture in the context of public administration and its architecture layers indicate which part the authority should incorporate in its information concept.

# Structure of the National Architecture Plan

Structure of the National Architecture Plan

1. Chapter Introduction - General introduction and background
2. Chapter Architectural Vision of eGovernment of the Czech Republic - Description of the goals and options to get to the target state
3. Chapter Architecture of the office in the context of public administration and its architecture layers - Description of the architecture of eGovernment and the office through the architecture layers and its rules
4. Chapter Description of shared services, functional units and thematic areas of public administration in the Czech Republic - Description of functional units and thematic areas of eGovernment from the perspective of providers of these services.
5. Chapter Methods of using shared services, functional units and thematic areas by individual authorities - Description of rules for using functional units and thematic areas in the authority
6. Chapter Models of NAP in central repository and in OVS

# Scope of the National Architectural Plan

The **IKCR is binding on all state authorities and local government units** (also referred to as "authorities"[1]))) - the latter, including public corporations, consisting, in addition to themselves, of contributory and commercial organizations established by them, according to Article 1, paragraph 1 of Act No. 365/2000 Coll, on Public Administration Information Systems, as amended, is collectively referred to as public administration bodies (also referred to as "PIS"). The NAP is a follow-up document of the ICCR, which develops the principles, principles and objectives guided therein and **is binding** on authorities to the extent of compliance with the principles, principles and objectives of ICCR.

The NAP has some differences in the area of local government, which are due to the definition of local government. These include:

- Each municipality or region is an autonomous entity and can only be imposed obligations by law.
- The decision-making of the municipality is collective (the council makes the decisions)
- Municipalities can exercise delegated powers in addition to self-governing activities
- The size of self-governing entities varies widely - from regions with more than a million inhabitants to municipalities with only a hundred inhabitants

The NAP tries to cover these differences in some of the obligations imposed - however, in the recommendations and in the use of central shared eGovernment services, no distinction is made between local government and state government and both parts of government are equivalent from the NAP's point of view.

Other public authorities (also referred to as 'public authorities') and private data users (also referred to as 'PSUs') that are not public authorities, such as schools or hospitals, can use the NAP as recommendations and

best practices. However, when using central shared eGovernment services, these organisations are also obliged to follow the principles and objectives of the NAP.

# Periodicity and updating of the document

The NAP will be evaluated and updated by the Ministry of the Interior every year, always with a view to the next 5 years, so it has the character of a rolling plan.

Comments and other relevant input will be received on the NAP from public administration and non-public administration organisations, which will be incorporated with each new version.

After each update, the NAP will be resubmitted for approval together with information on the achievement of the defined objectives.

# Basic concepts of public administration and office architecture management

Essential terms are summarised in the Glossary of eGovernment terms.

# Basic architectural principles and their implementation

Here are listed the individual architectural principles set by the ICCR and links to the individual eGovernment shared services that fulfil them - or that are fulfilled by each OSS if the shared service, functional unit or topic area is used correctly and follows the described rules.

| Principle | Fulfillment by a shared service, functional unit or topic area | | |
|---|---|---|---|
| Architectonicky principle EU P1: Standard Digitized | Universal Contact Point<br>portaly_verejne_spravy_a_soukromopravnich_uzivatelnich_udaju | Portal solutions OVS]]] | Writing service |
| EU P2 Architectural Principle: "Only Once" Principle | Linked Data Fund | Integration of Information Systems | |
| EU Architectural Principle P3: Promoting Inclusion and Accessibility | Information accessibility | | |
| EU Architectural Principle P4: Openness and Transparency | Public Data Fund | | |
| EU Architectural Principle P5: Cross-border Access as a Standard | Linked Data Fund | | |
| EU Architectural Principle P6: Interoperability as a Standard | Linked Dataset<br>Electronic identification | | |

| Principle | Fulfillment by a shared service, functional unit or topic area | | |
|---|---|---|---|
| EU Architectural Principle P7: Trust and Security | Pseudonymisation | Integration of information systems | |
| Architectonic principle of the Czech Republic P8: One State | CMS/KIVS public_datovy_fond | | |
| Architectonic principle of the Czech Republic P9: Shared services of public administration | Linked data fund | Integration of information systems | |
| Architectonic principle CR P10: Readiness for change | Principle solved by implementing MŘICT | | |
| Architectonic Principle of the CR P11: eGovernment as a Platform | CMS/KIVS Linked Data Fund public_datovy_fond | | |
| Architectural principle of the CR P12: Internally digital only | Integration of information systems Inventory service Portal solutions OVS | | |
| Architectonic Principle CR P13: Open Data as a Standard | | | |
| Architectural Principle CR P14: Technology Neutrality | eGovernment Cloud | | |
| Architectural Principle CR P15: User-friendliness | Portal solutions OVS | | |
| Architectonic Principle of the Czech Republic P16: Consolidation and Interconnection of Public Administration Information Systems | | | |
| Architectural principle CR P17: Limitation on building monolithic systems | NAP does not directly support, but with reference to previous principles it is clear that all shared services, functional units and subject areas cannot be managed by one monolith | | |

The following architectural domains of the architecture of the authorities (and the whole public administration of the Czech Republic) are used for modelling the National Architectural Plan of the Czech Republic and for formulating the principles and rules of the ICCR and their decomposition, which are in line with the National Architectural Framework.

The architectural domains are divided into horizontal domains (also called layers), corresponding to the four-layer vision of the architecture of the CS, and vertical domains, representing the components of motivation and governance of the public administration.

Horizontal domains (layers) of the basic elements of the architecture:

- **Business Architecture** - i.e., the architecture of all components of public administration performance and supporting operational functions, particularly focused on OVM's scope, services, processes, organization, roles and responsibilities.
- **Information Systems Architecture**, broken down into:
  - Information (data) and

- Application architecture.
- **Technology Architecture**, further divided according to the four-layer architecture vision into:
    - IT technology architecture, also called platform architecture and
    - communication infrastructure and data center architecture

Vertical domains of the motivating components of the architecture:

- **Strategy and Direction Architecture**, originally also called Motivation Architecture (in a narrower sense), now one of the components of the office motivation
- **Performance Architecture**, with measures of both strategy achievement and operational effectiveness
- **Risk and Security Architecture**, affecting specific security attributes across domains, including cybersecurity requirements
- **Compliance and Sustainability Architecture**, encompassing all elements of regulation of the Authority's operations, from legislation, to norms and standards, to its own sustainability policies.

The final modelling domain is the light red area, which is the so-called Authority Architecture Roadmap and allows visualisation of work packages, projects and the architecture states (intermediate and target) achieved by them.



# Concept of Reference Models for Authority Architecture VS

Reference models represent either a mandatory or optional (depending on the accompanying information for each) form of architecture, i.e. a way of modeling and interpreting authority architectures.

Reference models will be issued mainly for architectures of whole offices or their essential parts, segments.

For higher usability, in addition to generic, nationally valid reference models, reference models specific to a certain sector (segment) of public administration, e.g. health, spatial data, infrastructure, etc., or for offices from individual layers of the hierarchy of state and local government, including all types of competence at a given level (direct, delegated, self-governing, private) will be issued.

Reference models can be expected to be issued at these levels:

- Reference architectures for central administrative authorities
- Reference architectures for local and regional authorities
    - Simplified example of county and regional corporation architecture
    - Simplified example of the architecture of an ORP and its corporation
    - Simplified example of architecture of a small municipality
- Reference architectures of other types of public authorities - if identified.

## Architectural patterns of key authority areas

Architectural patterns will be issued for those areas of authority architecture (particularly process and application) which, although remaining mostly a local responsibility, must be centrally prescribed and subsequently adhered to in solutions in order to meet the NAP objectives. These are in particular the following categories of reference models for process and application architecture:

- Multi-channel user interfaces
    - for VS clients
    - for VS employees
- Key parts of agency IS
    - Shared Agency Front Office (CRM)

- - Specific agenda Middle-Office (specialized parts of agenda IS), some supra-departmental (subsidies, controls, maintenance of state network infrastructure, …)
    - Shared agenda Back-Office (payment, knowledge and other systems)
- Management of files, documents and their flow (workflow)
- Operational ERP systems
- Spatial data and services over spatial data
- Office resource management extension systems
- Identity management
- Integration platforms
- Management of master data and codebooks (with and without linking to ZR)
- Business Intelligence (and its use for management decision making as well as to support transactional agency and operational systems)

## Architectural patterns for the use of shared eGovernment services

OHA will incrementally release reference sample enterprise capability architectures and solution architectures for those areas of agency architecture whose form must be centrally prescribed and subsequently followed in solutions to meet the objectives of the concept. Therefore, these are called **mandatory architecture patterns** that will be required by OHA in the ICT projects under consideration.

Typically, these will be areas of architecture using shared eGovernment services or other areas where a single, standardized solution will be desirable to meet statutory obligations or achieve efficiencies. OHA will also issue detailed architectural interface designs for the use of shared eGovernment services, at the service level and other elements of the solution and design of these interfaces and how they will be used in local authority architectures.

The NAP here obliges the design of solutions to respect these patterns as they will be published by OHA, incrementally and separately.

[1]

In a narrower sense, an authority is an institutional component of a local government unit, but unlike the local government unit itself, its authority does not have legal personality and acts on behalf of the entire local government unit (municipality or region).