

GIS and Spatial Data Case study from Rajasthan

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OVERVIEW

- Background: GIS in urban management
- The SUARAJ spatial data centre initiative
- The Challenges
- Devil-in-the-details: the right RFP
- Going Forward
- Closing act: Finalising the institutional structure
- Spatial Data Centre: Learnings
- Summary and Conclusions

Background: GIS in Urban Management

- Scratching the surface of the power of GIS & spatial data
- Multiple agencies, each allocating own resources
- Project-specific approach to utilising GIS
- Differing base data
- Inability to utilise other department GIS data, incompatible scales, standards
- Poor management and updation of existing data

In a nut-shell, lack of technical competence and of integrated approach to GIS data

SUARAJ: The Spatial Data Centre Initiative - focus on urban GIS

- Create a central repository of spatial data
 - Connecting rural and urban spatial data: **RRIS & RUIS**
 - Connecting different agency requirements to a single source
- Start with six key cities and their immediate areas
- Set data standards and scales across the board
- Specify detailed data requirements for Urban Planning and Urban Management
- Open it up to the market players of GIS for the first time
- Create a state-of-the-art procurement document

Devil-in-the-details: The Right RFP for Rajasthan Urban Information System (RUIS)

- It begins with the procurement document
- Requires a thorough understanding of what you want
- Don't overload the RFP document
- Eliminate the potential for mediocre delivery
- The right GIS at the right price

Devil in the Details: Key issues with the first draft of RUIS RFP

- Fully loaded and very complex, evaluation of bids a complex task
 - Focus for GIS Organisation is “getting lost”

- Four components that require specific, separate domain knowledge – Mapping and GIS; Property Database computerisation; HW and SW and Spatial Planning
 - Can be 4 different Tenders
 - Keep focus for Mapping and GIS – after all SDC is the aim

- Entailed a consortium of experience - reduced ability to pick best quality and price

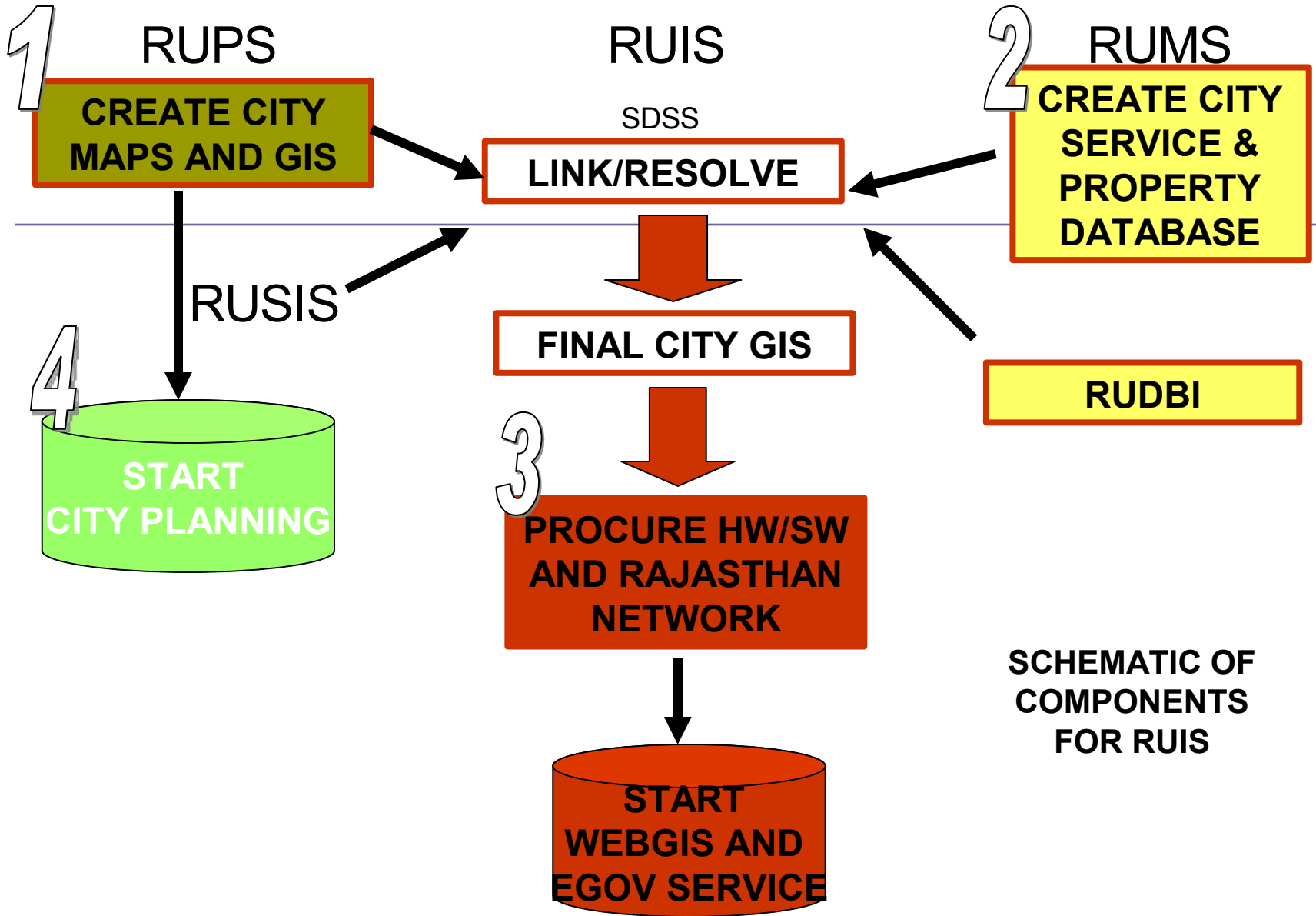
- Spatial Planning included as part of the RFP

Devil in the Details: Key issues with the first draft of RUIS RFP

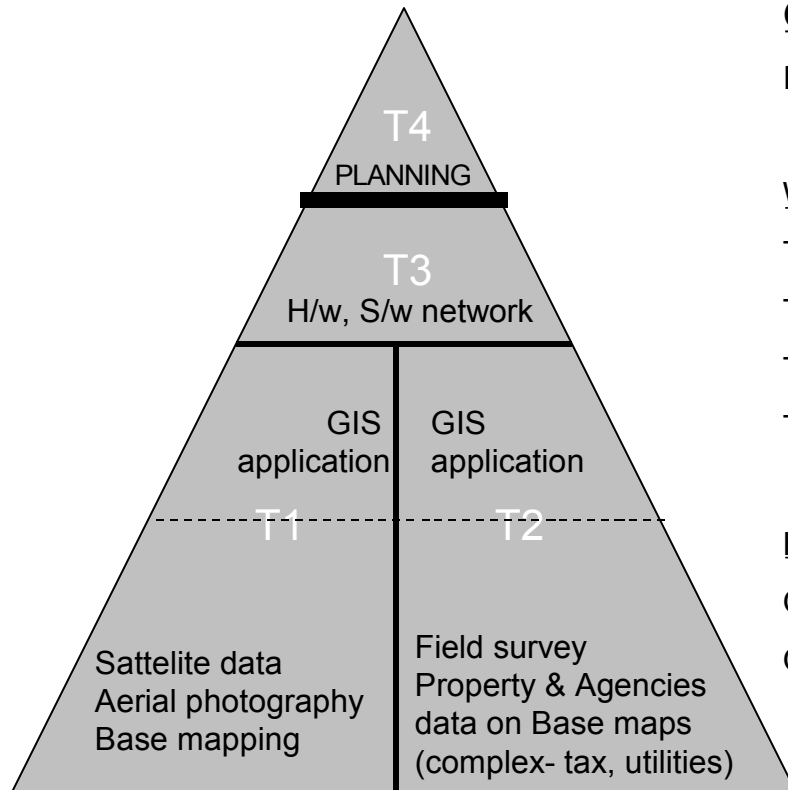
- Six ULBs with differing degrees of data availability on property and services could require different specifications
 - Better to have the computerisation of city property data done separately – Responsibility of City Municipality
 - Property database link to Map/GIS can be provided not the property data itself
 - Issue of Resolving plot boundaries and property records data – a major task

- Hardware/Software Architecture is yet another major element
 - Can be a separate RFP

- All 4 Tender components can be properly scheduled and linked up
 - Phase it out
 - Bring core-competence of each relevant expert into bid



RE-DEFINING SCOPE OF THE TASK



GOAL: GIS data for URBAN PLANNING;
IMPLEMENTATION; URBAN MANAGEMENT; PARTICIPATION

WHAT'S INVOLVED:

T-1: base spatial data for each city with GIS application
T-2: Property & Agency specific data with GIS application
T-3: hardware, software, network and web architecture
T-4: Spatial Planning

HOW SHOULD WE GO ABOUT IT: remove T-4 completely

OPTION 1: separate T-1, T-2, T-3 into different tenders

OPTION 2: retain as one tender but as three distinct Phases

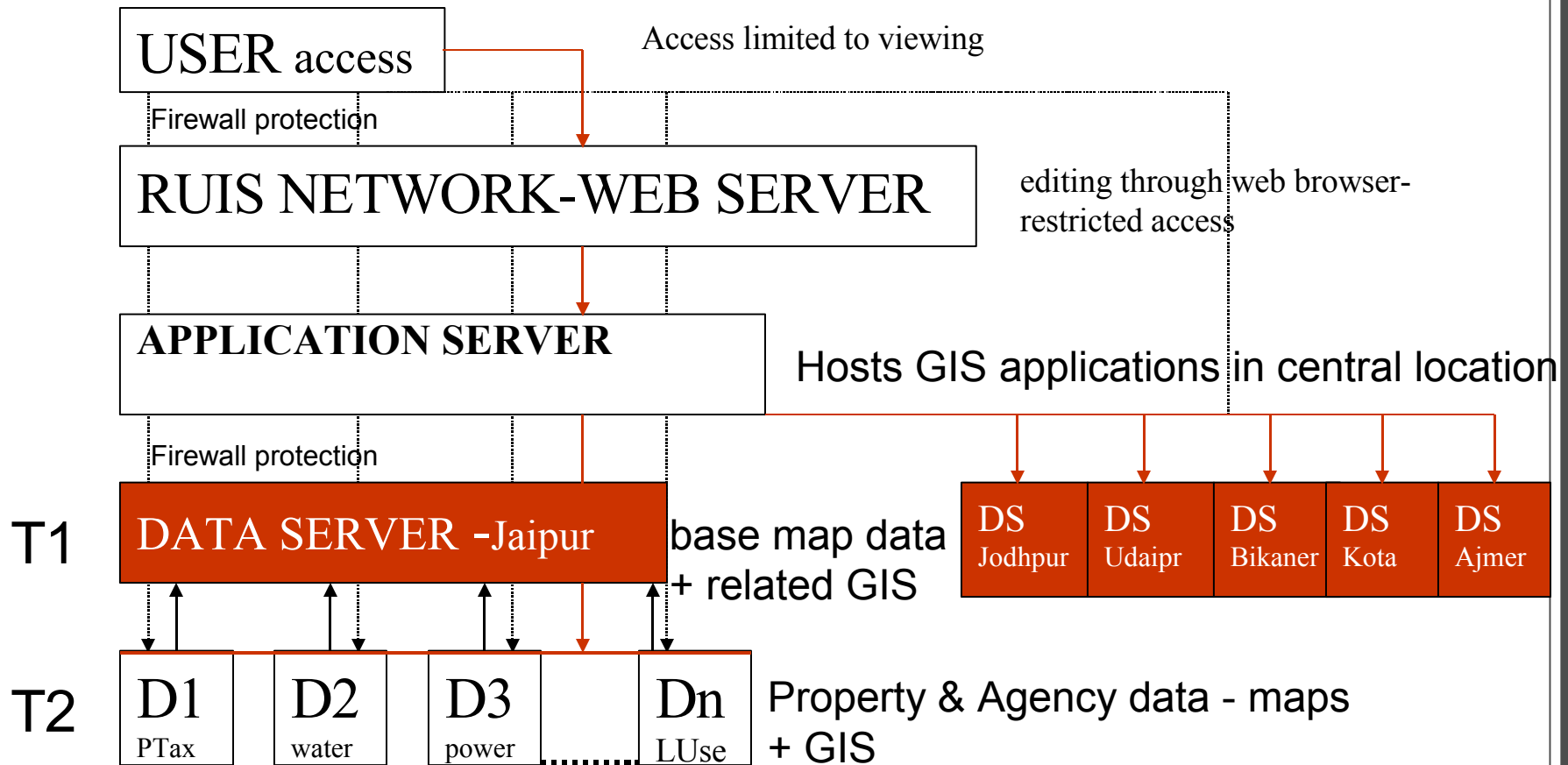
P1=T1: Rajasthan Spatial Data Centre

P2=T2: Rajasthan Urban Information System

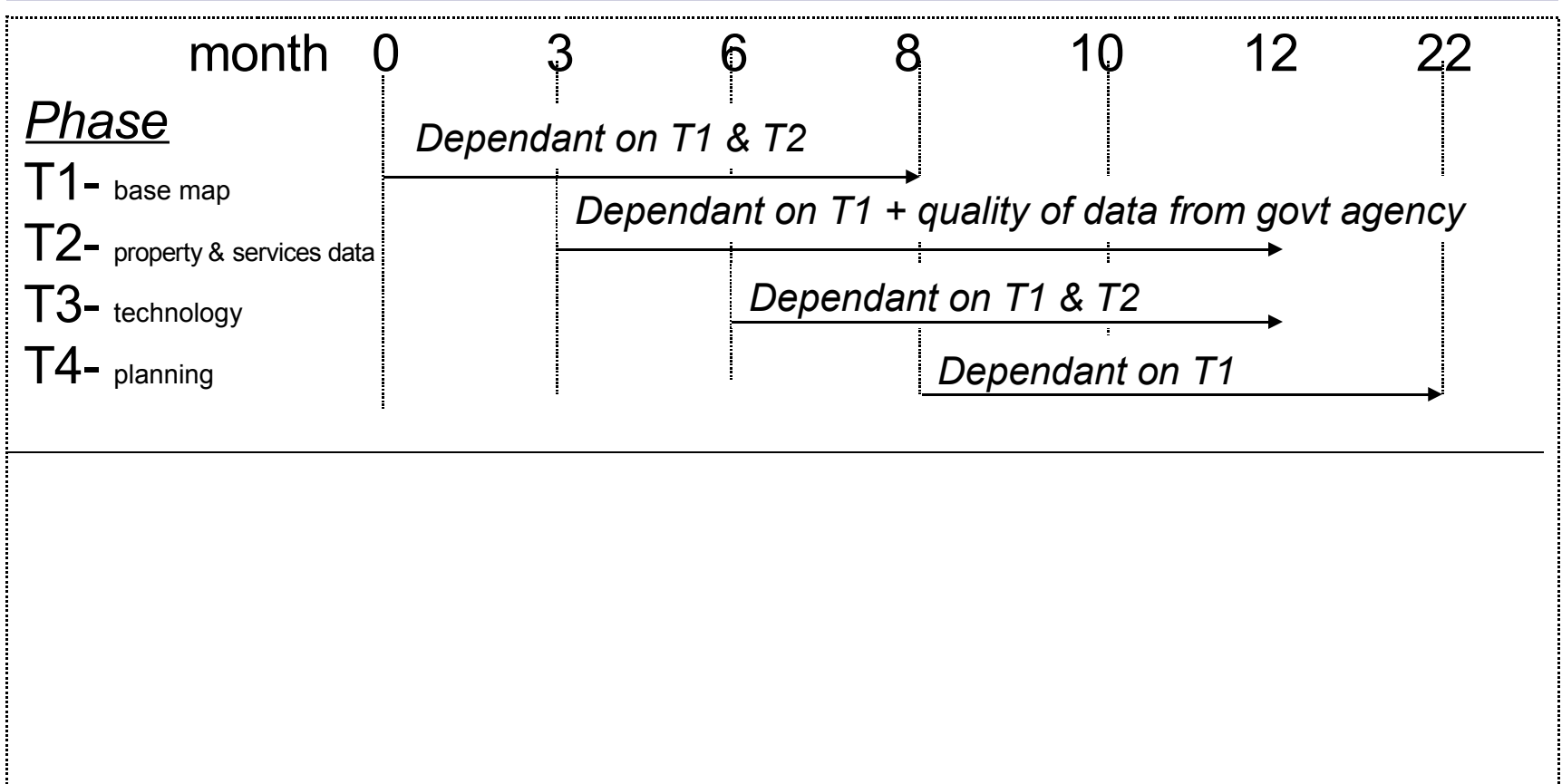
P3=T3: appropriate technology architecture

T3

HARDWARE - SOFTWARE ARCHITECTURE



POTENTIAL TIMELINE- 7 ULBS CONCURRENTLY



Devil in the Details: re-designed the RFP

- REMOVED THE SPATIAL PLANNING COMPONENT
- SEPERATING INTO 3 PHASES SINGLE TENDER - T1+T2+T3
- USED EXISTING INVESTMENT IN H/W, S/W
- INCORPORATED THE NUIS DATA STANDARDS
- RESOLVED NOT TO REDO THE AIREAL PHOTOGRAPHY BUT TO UPDATE 1999 EXERCISE WITH SATELLITE
- WEB-BASED SHARING AND UPDATING
- INTRODUCED A ROBUST SPATIAL DECISION SUPPORT SYSTEM APPLICATION SUITE

Going Forward

- Keeping the GIS vendor honest
- Generating data from ULBs
- Creating ownership for data within ULB departments
- Training within ULBs for O&M of GIS
- Data updating protocol
- Using GIS data to make decisions
- Using GIS to integrate activities of various departments
- Include citizen participation through the use of maps
- Expanding RUIS to all ULBs of state using the same methodology followed in the six ULBs

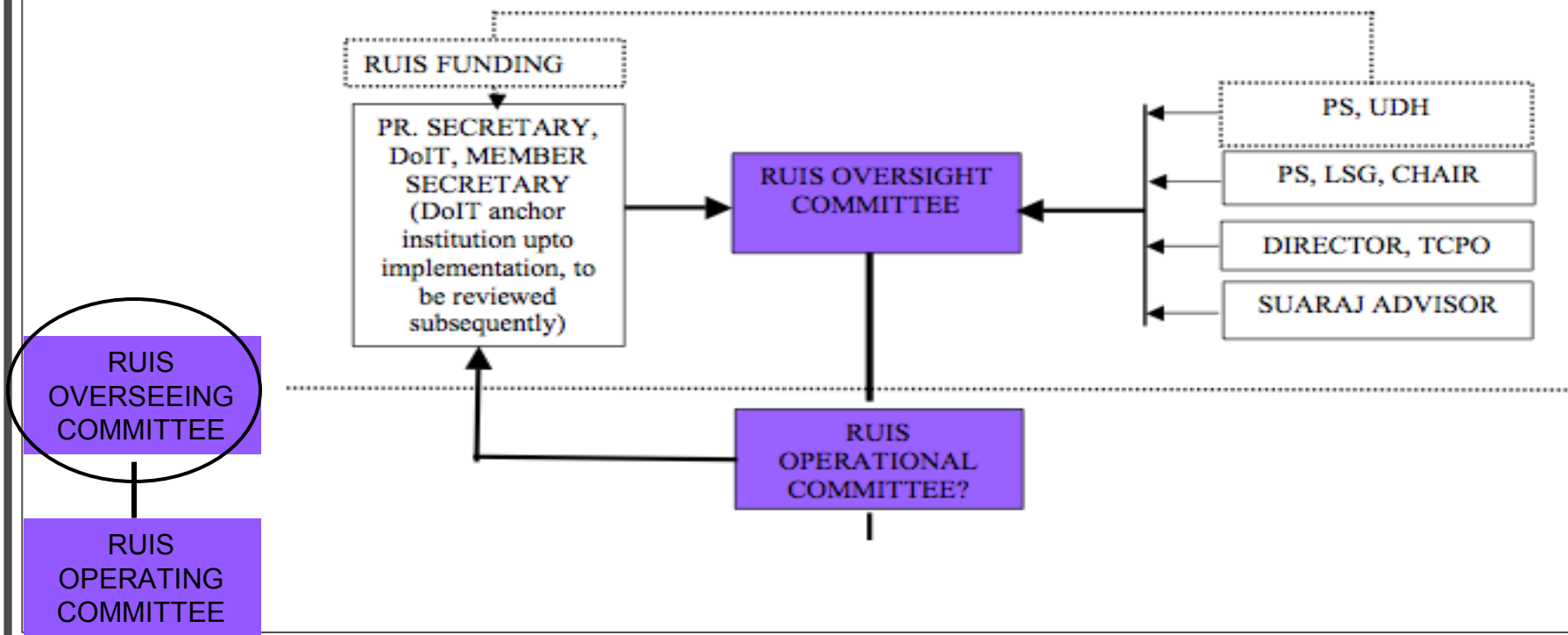
WHO'S GOING TO DO THIS AND HOW?

Closing Act: Finalising the Institutional Structure

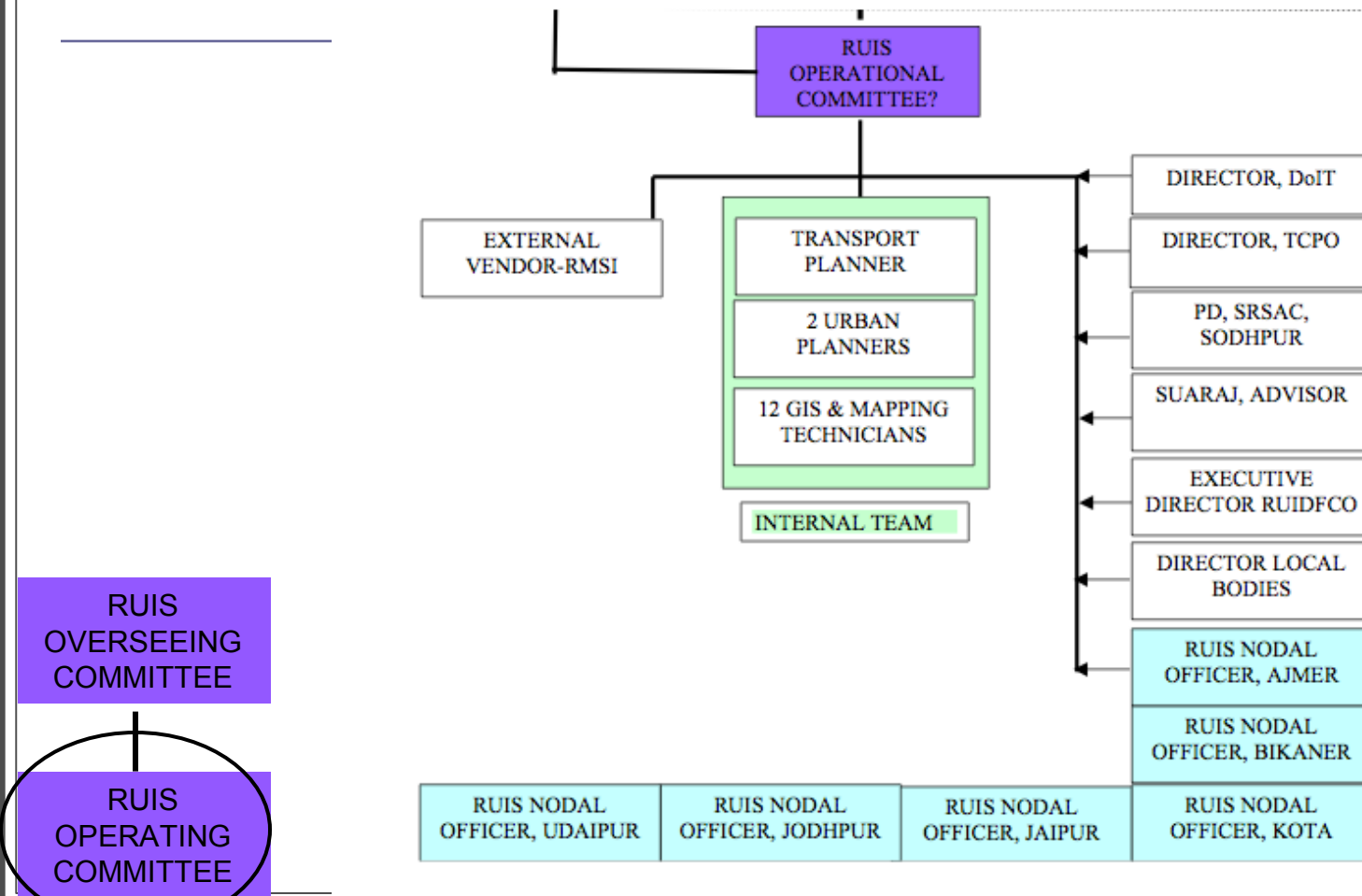
- Who owns the RUIS initiative?
- How is the challenge of technical needs balanced with the urban domain knowledge?
- Three key players for successful RUIS: IT, Planning departments, ULBs
- Need for an innovative institutional arrangement that is sustainable and not ad-hoc

RUIS Institutional Structure

RUIS : PROPOSAL FOR INSTITUTIONAL STRUCTURE



The Institutional Structure



RUIS: Learnings-7 success factors

- n **Starting point: political leadership**
- n **Technically competent external Advisors - not Consultants
no axe to grind; no price to pay; no clock ticking**
- n **Internal administrative champion/s**
- n **An enabling context: SUARAJ**
 - **Getting consensus on the importance of integrated GIS
for urban management**
 - **Converting this into an actual project**
- 5. **Sufficient Time to get it right, starting with consensus
building**
- 6. **Relentless and rigorous pursuit for excellence and delivery**
- 7. **Regular reviews for accountability**

Summary and Conclusions

- Good decisions require good quality data - GIS is a powerful tool
- Good news is the opening up of market for mapping services
- GIS requires domain expertise which is rare inside government
- It is easy to get dazzled and make the wrong choices
- States and cities need understand & overcome the challenges

thank you