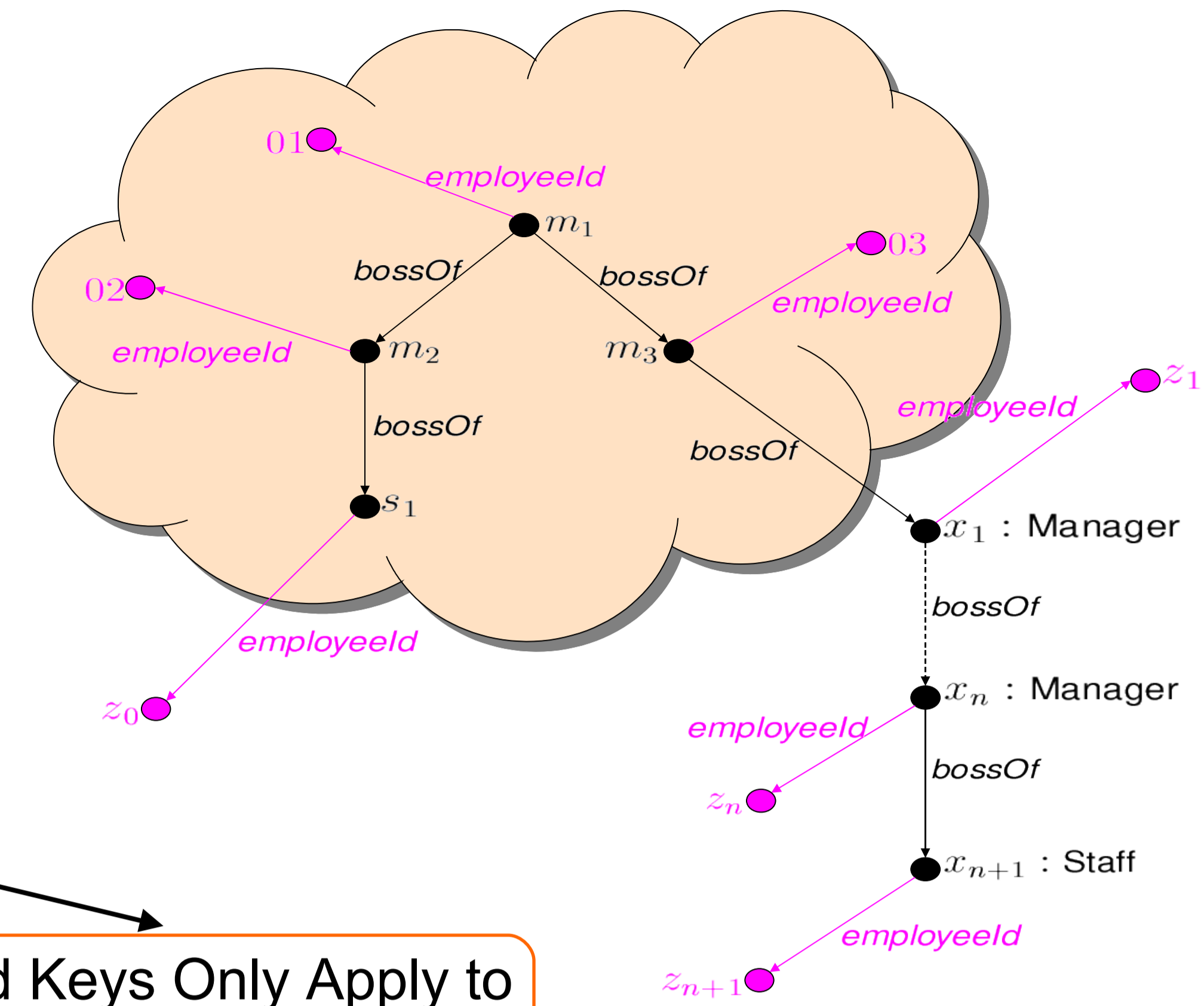


Keys For Ontologies – You Choose

TBox \mathcal{T}	ABox \mathcal{A}	
1. Manager \sqsubseteq Employee $\sqcap \exists \text{bossOf} . (\text{Manager} \sqcup \text{Staff})$	m_1, m_2, m_3 : Manager	
2. Staff \sqsubseteq Employee	s_1 : Staff	
3. Employee $\sqsubseteq (\leq 1 \text{bossOf}^- . \text{Manager})$	$(m_1, m_2), (m_1, m_3), (m_2, s_1)$: <i>bossOf</i>	
4. Employee $\sqsubseteq \exists \text{employeeId} . \top$	$(m_1, 01), (m_2, 02), (m_3, 03)$: <i>employeeId</i>	



Should Keys Only Apply to Named Individuals?

Should Keys Only Apply to Explicit Key Data Values?

Should Keys Only Apply to Explicit Key Data Values?

Integrity Constraints

ABox Key Constraints

Restricted Key Constraints

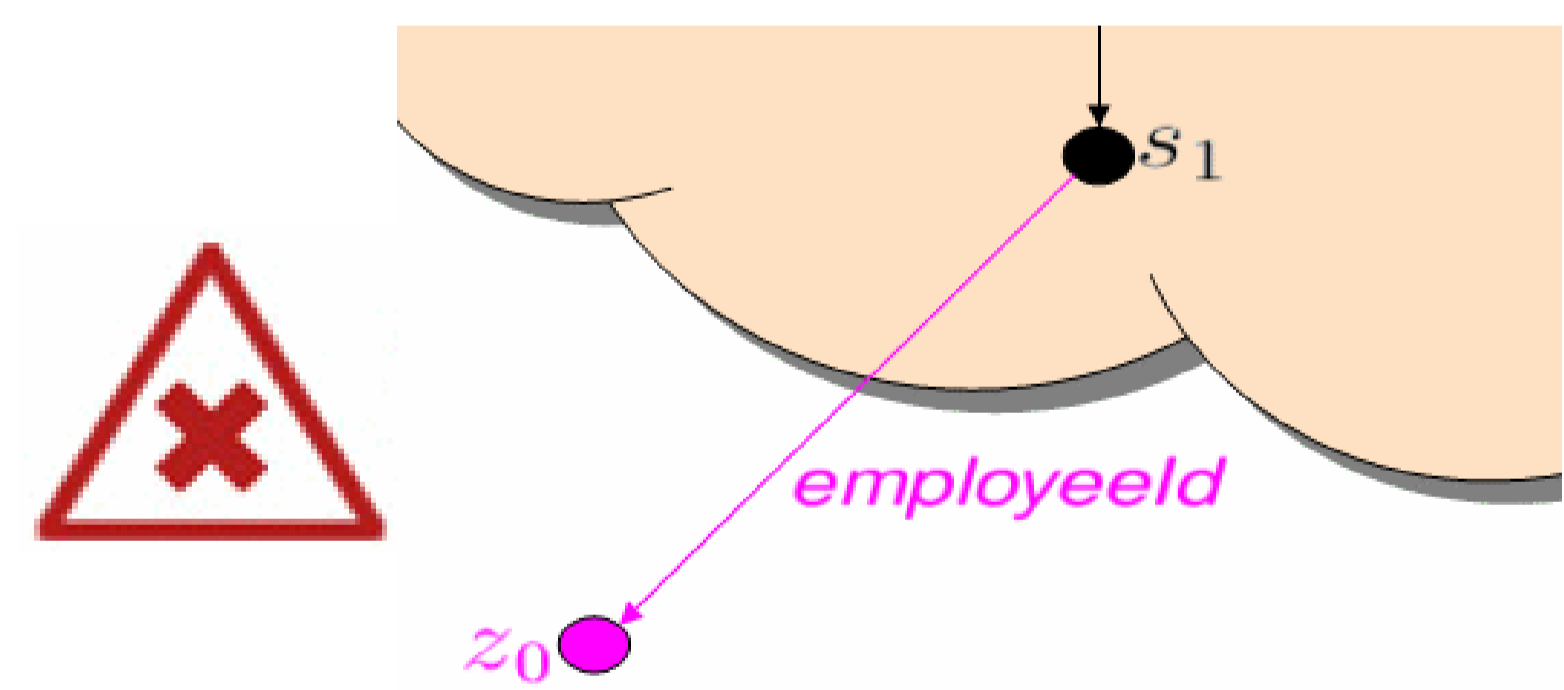
General Key Constraints

If Constraints = {Employee $\sqsubseteq \exists \text{employeeId} . \top$ }, then...

If $\mathcal{A}' = \mathcal{A} \cup \{(s_1, 03) : \text{employeeId}\}$, then...

If $\mathcal{T}' = \mathcal{T} \cup \{\text{Employee} \sqsubseteq \exists \text{employeeId} . \text{Integer}\}$, then...

If $\mathcal{T}' = \mathcal{T} \cup \{\text{Employee} \sqsubseteq \exists \text{employeeId} . \leq_{99}\}$, then...



If Constraints = {Manager $\sqsubseteq \exists \text{bossOf} . (\text{Manager} \sqcup \text{Staff})$ }, then...

