



*The purpose of Naming*

Handle Naming of ESS wide physical and logical devices according to ESS Naming Convention

ESS name	System structure	Device structure
	Which part of the facility does the device provide service to?	What kind of service does the device provide?
Must refer to System structure	1 System Group	1 Discipline
May refer to Device structure	2 System	2 Device Group
May have index for instance	3 Subsystem	3 Device Type

Rules for structures

Structures

System, Subsystem, Discipline, Device Type must have mnemonic  
 System Group may have mnemonic  
 Device Group must not have mnemonic

A mnemonic is a string of characters and numbers that must be unique in its namespace (rules apply)

Rules for names

Names

- 1) System structure
- 2) System structure + Device structure + Index

A name

system structure mnemonic path  
 system structure mnemonic path : device structure mnemonic path – index

System structure mnemonic path

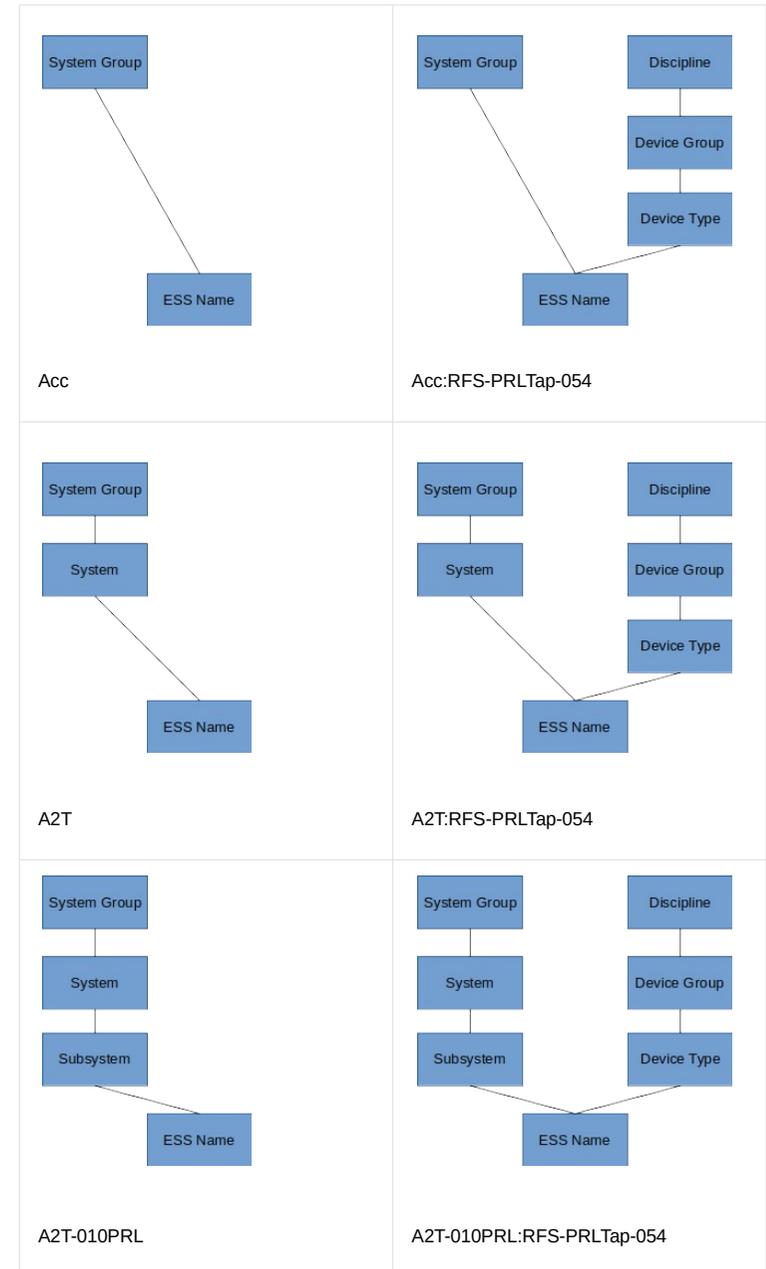
- if System Group then System Group mnemonic
- If System then System mnemonic
- If Subsystem then System mnemonic – Subsystem mnemonic

Device structure mnemonic path

- if Device Type then Discipline mnemonic – Device Type mnemonic

Index

- a string of characters and numbers (rules apply)





What	Description	Example
Concept & Terminology		
ESS Naming Convention	Rules for naming ESS Systems and Devices and Components in EPICS-based control system.	<a href="https://chess.esss.lu.se/enovia/link/ESS-0000757/21308.51166.45568.45993/valid">https://chess.esss.lu.se/enovia/link/ESS-0000757/21308.51166.45568.45993/valid</a>
Authentication & authorization	ESS username and password. None - Read-only. User - All operations for names. Propose create, update, delete structure entries + cancel proposals. Administrator - All operations for names and structures.	
Equivalence	Derived from name or mnemonic by taking similar-looking characters into account and helps to ensure that name and mnemonic is unique within its namespace.	o, O, 0 - considered same from equivalence point-of-view i, I, l, L, 1 - considered same from equivalence point-of-view leading 0 numerical characters removed
Lifecycle of names and structures	The lifecycle of ESS name and structure entries. Each entry has a unique identifier throughout its lifecycle. The lifecycle is governed by attributes status, latest, deleted.	An entry that is deleted and approved may no longer be updated (or revived).
Line of uuid	A collection of ESS name or structure entries that share the same identifier and together make up an entry's history.	
Namespace	Line of uuid from top level to bottom level, for system structure and device structure, respectively. An index or a mnemonic or mnemonic equivalence may exist only once in a namespace for entries that are approved, latest, not deleted. Namespace for a name entry is all valid names. Namespace for a structure entry is its hierarchy.	
REST API schemas		Required fields (Optional fields) for kind of operation
Name element	A collection of fields that represent an ESS name entry (comprehensive). From server to client.	
Name command element	A collection of fields that represent an ESS name entry (minimum). From client to server. Purpose to simplify communication client to server.	Create – parentsystemstructure, description, comment (, parentdevicestructure, index) Update – uuid, parentsystemstructure, description, comment (, parentdevicestructure, index) Delete – uuid, comment
Structure element	A collection of fields that represent an ESS system structure or device structure entry (comprehensive). From server to client.	
Structure command element	A collection of fields that represent an ESS system structure or device structure entry (minimum). From client to server. Purpose to simplify communication client to server.	Create – type, parent, name, mnemonic, description, comment Update – uuid, type, parent, name, mnemonic, description, comment Delete – uuid, type, comment Approve – uuid, type, parent, name, description, comment Cancel – uuid, type, parent, name, description, comment Reject – uuid, type, parent, name, description, comment
REST API fields (sub-selection)		
Index (Instance index)	"Mnemonic for a name". To distinguish devices of the same type in the same system. Two different set of rules for index are identified for the Scientific and P&ID disciplines.	
Mnemonic	A set of characters and numbers to identify an entry in system structure and device structure.	
Mnemonic equivalence	A mnemonic with rules for equivalence applied.	A2T-010PRL:RFS-PRLTap-054 → A2T-10PR1:RFS-PR1TAP-54
Status	Status for entry in hierarchy of names and structures	APPROVED, CANCELLED, REJECTED, PENDING
Latest	To show if entry is latest in its line of (uuid) entries.	true, false
Deleted	To show if entry is deleted in its line of (uuid) entries.	true, false
REST API usage		
<ul style="list-style-type: none"> <li>• Observe which fields to use for operations client to server.</li> <li>• Obsolete values are not shown unless history is requested.</li> <li>• Regular expressions are not supported for searches. Regex-like behavior is available with _ underscore, 0 or 1 occurrences of any character, % percent, any number of any character.</li> </ul>		