Element Manager
Configuration Specifications

Version 0.9

October, 2017

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Ver. No.	Revision Date	Change Description
0.9	October, 2017	Initial Version Registered

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Configuration Definitions
Configurations are classified and defined by their usage. Also, they are distributed into separate files according to the usage.
The table below is a list of them.

Name	Description
conf_if_process.conf	It defines the Netconf server address, port number, host key information and Capability information, which are necessary for operating the I/F Process Part.
conf_scenario.conf	It defines the files necessary for operating the Scenario Individual Part, which files are to be determined accordingly to the type of services and operations.
conf_driver.conf	It defines the files necessary for operating the Driver Individual Part, which files are to be determined accordingly to the platform names, OSes and the firmware versions.
conf_sys_common.conf	It defines the common configuration items (DB server address, port number, Data Base name, DB access user name, DB access user password, configured value for confirm-timeout, etc.) that are necessary for EM.
conf_separate_driver_cisco.conf	Configurations that are used in the Individual Driver (cisco) but not used in the Configuration Management Function. It defines the detailed information of the variable parameters that are necessary for injecting data to Cisco devices.

Rules of Description for Configurations

There are some rules to describe definitions in configuration files with KEY_VALUE method as follows.

No.	Rule of Description
1	Character Code: UTF-8
2	Line Feed Code: LF
3	Delimiter between Key and Value: =
4	A line feed must be inserted just after each pair of key and value.
5	If a line is started with "#", it is a comment line (and will not be imported).
6	Half-width space and TAB characters are prohibited to be used (even in front or behind of "=" sign) except in comments.
7	Full-width characters (incl. all Japanese characters) are prohibited to be used except in comments.
8	Characters "=" and "#" are prohibited to be used in keys and values.

Description Example (case of "conf_if_process.conf")

```
#Netconf Server Address
Netconf_server_address=0.0.0.0
#Port Number
Port_number=8080
```

conf_if_process.conf

The table below shows the detail of items which are managed in this configuration file.

No.	Item Name	Key	Description	Required?	Default Value	Type	in case invalid value is set	Remarks
1	Netconf Server Address	Netconf_server_address	I/F Process Part Definition: Netconf Server Address	Yes	0.0.0.0	Text	Process cannot be started.	
2	Port Number	Port_number	I/F Process Part Definition: Port Number	Yes	8080	Numeral	Process cannot be started.	
3	Account Name	Account	Set the certificate account name which is used in the I/F Process Part.	Yes	-	Text	SSH connection from EC Main cannot be established.	
4	Password	Password	Set the certificate password which is used in the I/F Process Part.	Yes	-	Text	SSH connection from EC Main cannot be established.	
5	Capability Information 1	Capability1	Capability information 1 of HELLO to be sent to EC Main	Yes	-	Text	Capability exchange of HELLO cannot be performed.	
6	Capability Information 2	Capability2	Capability information 2 of HELLO to be sent to EC Main	Yes	-	Text	Ditto.	
7	**Append lines every time when Capability Information is added in the future.**							
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conf_scenario.conf

The table below shows the detail of items which are managed in this configuration file.

No.	Item Name	Key	Description	Required?	Default Value	Type	in case invalid value is set	Remarks
1	Scenario Key Name 1	Scenario_key1	The service type to run each scenario individual process from Order Flow Control	Yes	spine	Text	Discontinuation of order process because of NG (defect of request)	
2	Order Type 1	Scenario_order1	The order type to run each scenario individual process from Order Flow Control	Yes	merge	Text	Ditto.	
3	Individual Scenario Startup Name 1	Scenario_name1	The scenario name (Spine enhanced) to run each scenario individual process from Order Flow Control	Yes	SpineMerge	Text	Ditto.	
4	Waiting Time 1 of Order Request for each scenario	Scenario_Timer_Order_Wait1	The guard timer (ms) for each scenario. It watches that the time between the order reception and the configuration completion of all devices does not exceed the specified value.	Yes	-	Numeral	Ditto.	
5	Scenario Key Name 2	Scenario_key2	The service type to run each scenario individual process from Order Flow Control	Yes	spine	Text	Ditto.	
6	Order Type 2	Scenario_order2	The order type to run each scenario individual process from Order Flow Control	Yes	delete	Text	Ditto.	
7	Individual Scenario Startup Name 2	Scenario_name2	The scenario name (Spine enhanced) to run each scenario individual process from Order Flow Control	Yes	SpineDelete	Text	Ditto.	
8	Waiting Time 2 of Order Request for each scenario	Scenario_Timer_Order_Wait2	The guard timer (ms) for each scenario. It watches that the time between the order reception and the configuration completion of all devices does not exceed the specified value.	Yes	-	Numeral	Ditto.	
9	Scenario Key Name 3	Scenario_key3	The service type to run each scenario individual process from Order Flow Control	Yes	leaf	Text	Ditto.	
10	Order Type 3	Scenario_order3	The order type to run each scenario individual process from Order Flow Control	Yes	merge	Text	Ditto.	
11	Individual Scenario Startup Name 3	Scenario_name3	The scenario name (Spine enhanced) to run each scenario individual process from Order Flow Control	Yes	LeafMerge	Text	Ditto.	
12	Waiting Time 3 of Order Request for each scenario	Scenario_Timer_Order_Wait3	The guard timer (ms) for each scenario. It watches that the time between the order reception and the configuration completion of all devices does not exceed the specified value.	Yes	-	Numeral	Ditto.	
13	Scenario Key Name 4	Scenario_key4	The service type to run each scenario individual process from Order Flow Control	Yes	leaf	Text	Ditto.	
14	Order Type 4	Scenario_order4	The order type to run each scenario individual process from Order Flow Control	Yes	delete	Text	Ditto.	
15	Individual Scenario Startup Name 4	Scenario_name4	The scenario name (Spine enhanced) to run each scenario individual process from Order Flow Control	Yes	LeafDelete	Text	Ditto.	
16	Waiting Time 4 of Order Request for each scenario	Scenario_Timer_Order_Wait4	The guard timer (ms) for each scenario. It watches that the time between the order reception and the configuration completion of all devices does not exceed the specified value.	Yes	-	Numeral	Ditto.	
17	Scenario Key Name 5	Scenario_key5	The service type to run each scenario individual process from Order Flow Control	Yes	internal-lag	Text	Ditto.	
18	Order Type 5	Scenario_order5	The order type to run each scenario individual process from Order Flow Control	Yes	merge	Text	Ditto.	
19	Individual Scenario Startup Name 5	Scenario_name5	The scenario name (Spine enhanced) to run each scenario individual process from Order Flow Control	Yes	InternalLagMerge	Text	Ditto.	
20	Waiting Time 5 of Order Request for each scenario	Scenario_Timer_Order_Wait5	The guard timer (ms) for each scenario. It watches that the time between the order reception and the configuration completion of all devices does not exceed the specified value.	Yes	-	Numeral	Ditto.	
21	Scenario Key Name 6	Scenario_key6	The service type to run each scenario individual process from Order Flow Control	Yes	internal-lag	Text	Ditto.	

22	Order Type 6	Scenario_order6	The order type to run each scenario individual process from Order Flow Control	Yes	delete	Text	Ditto.	
23	Individual Scenario Startup Name 6	Scenario_name6	The scenario name (Spine enhanced) to run each scenario individual process from Order Flow Control	Yes	InternalLagDelete	Text	Ditto.	
24	Waiting Time 6 of Order Request for each scenario	Scenario_Timer_Order_Wait6	The guard timer (ms) for each scenario. It watches that the time between the order reception and the configuration completion of all devices does not exceed the specified value.	Yes	-	Numeral	Ditto.	
25	Scenario Key Name 7	Scenario_key7	The service type to run each scenario individual process from Order Flow Control	Yes	ce-lag	Text	Ditto.	
26	Order Type 7	Scenario_order7	The order type to run each scenario individual process from Order Flow Control	Yes	merge	Text	Ditto.	
27	Individual Scenario Startup Name 7	Scenario_name7	The scenario name (Spine enhanced) to run each scenario individual process from Order Flow Control	Yes	CeLagMerge	Text	Ditto.	
28	Waiting Time 7 of Order Request for each scenario	Scenario_Timer_Order_Wait7	The guard timer (ms) for each scenario. It watches that the time between the order reception and the configuration completion of all devices does not exceed the specified value.	Yes	-	Numeral	Ditto.	
29	Scenario Key Name 8	Scenario_key8	The service type to run each scenario individual process from Order Flow Control	Yes	ce-lag	Text	Ditto.	
30	Order Type 8	Scenario_order8	The order type to run each scenario individual process from Order Flow Control	Yes	delete	Text	Ditto.	
31	Individual Scenario Startup Name 8	Scenario_name8	The scenario name (Spine enhanced) to run each scenario individual process from Order Flow Control	Yes	CeLagDelete	Text	Ditto.	
32	Waiting Time 8 of Order Request for each scenario	Scenario_Timer_Order_Wait8	The guard timer (ms) for each scenario. It watches that the time between the order reception and the configuration completion of all devices does not exceed the specified value.	Yes	-	Numeral	Ditto.	
33	Scenario Key Name 9	Scenario_key9	The service type to run each scenario individual process from Order Flow Control	Yes	l2-slice	Text	Ditto.	
34	Order Type 9	Scenario_order9	The order type to run each scenario individual process from Order Flow Control	Yes	merge	Text	Ditto.	
35	Individual Scenario Startup Name 9	Scenario_name9	The scenario name (Spine enhanced) to run each scenario individual process from Order Flow Control	Yes	L2SliceMerge	Text	Ditto.	
36	Waiting Time 9 of Order Request for each scenario	Scenario_Timer_Order_Wait9	The guard timer (ms) for each scenario. It watches that the time between the order reception and the configuration completion of all devices does not exceed the specified value.	Yes	-	Numeral	Ditto.	
37	Scenario Key Name 10	Scenario_key10	The service type to run each scenario individual process from Order Flow Control	Yes	l2-slice	Text	Ditto.	
38	Order Type 10	Scenario_order10	The order type to run each scenario individual process from Order Flow Control	Yes	delete	Text	Ditto.	
39	Individual Scenario Startup Name 10	Scenario_name10	The scenario name (Spine enhanced) to run each scenario individual process from Order Flow Control	Yes	L2SliceDelete	Text	Ditto.	
40	Waiting Time 10 of Order Request for each scenario	Scenario_Timer_Order_Wait10	The guard timer (ms) for each scenario. It watches that the time between the order reception and the configuration completion of all devices does not exceed the specified value.	Yes	-	Numeral	Ditto.	
41	Scenario Key Name 11	Scenario_key11	The service type to run each scenario individual process from Order Flow Control	Yes	l3-slice	Text	Ditto.	
42	Order Type 11	Scenario_order11	The order type to run each scenario individual process from Order Flow Control	Yes	merge	Text	Ditto.	
43	Individual Scenario Startup Name 11	Scenario_name11	The scenario name (Spine enhanced) to run each scenario individual process from Order Flow Control	Yes	L3SliceMerge	Text	Ditto.	
44	Waiting Time 11 of Order Request for each scenario	Scenario_Timer_Order_Wait11	The guard timer (ms) for each scenario. It watches that the time between the order reception and the configuration completion of all devices does not exceed the specified value.	Yes	-	Numeral	Ditto.	

45	Scenario Key Name 12	Scenario_key12	The service type to run each scenario individual process from Order Flow Control	Yes	l3-slice	Text	Ditto.	
46	Order Type 12	Scenario_order12	The order type to run each scenario individual process from Order Flow Control	Yes	delete	Text	Ditto.	
47	Individual Scenario Startup Name 12	Scenario_name12	The scenario name (Spine enhanced) to run each scenario individual process from Order Flow Control	Yes	L3SliceDelete	Text	Ditto.	
48	Waiting Time 12 of Order Request for each scenario	Scenario_Timer_Order_Wait12	The guard timer (ms) for each scenario. It watches that the time between the order reception and the configuration completion of all devices does not exceed the specified value.	Yes	-	Numeral	Ditto.	
49	Scenario Key Name 13	Scenario_key13	The service type to run each scenario individual process from Order Flow Control	Yes	l2-slice	Text	Ditto.	
50	Order Type 13	Scenario_order13	The order type to run each scenario individual process from Order Flow Control	Yes	get	Text	Ditto.	
51	Individual Scenario Startup Name 13	Scenario_name13	The scenario name (Spine enhanced) to run each scenario individual process from Order Flow Control	Yes	L2SliceGet	Text	Ditto.	
52	Waiting Time 13 of Order Request for each scenario	Scenario_Timer_Order_Wait13	The guard timer (ms) for each scenario. It watches that the time between the order reception and the configuration completion of all devices does not exceed the specified value.	Yes	-	Numeral	Ditto.	
53	Scenario Key Name 14	Scenario_key14	The service type to run each scenario individual process from Order Flow Control	Yes	l3-slice	Text	Ditto.	
54	Order Type 14	Scenario_order14	The order type to run each scenario individual process from Order Flow Control	Yes	get	Text	Ditto.	
55	Individual Scenario Startup Name 14	Scenario_name14	The scenario name (Spine enhanced) to run each scenario individual process from Order Flow Control	Yes	L3SliceGet	Text	Ditto.	
56	Waiting Time 14 of Order Request for each scenario	Scenario_Timer_Order_Wait14	The guard timer (ms) for each scenario. It watches that the time between the order reception and the configuration completion of all devices does not exceed the specified value.	Yes	-	Numeral	Ditto.	
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conf_driver.conf

The table below shows the detail of items which are managed in this configuration file.

No.	Item Name	Key	Description	Required?	Default Value	Type	in case invalid value is set	Remarks
1	Platform Name 1	Platform_name1	platform name of the target device	Yes	-	Text	driver selection failure	
2	Driver OS 1	Driver_os1	OS of the target device	Yes	-	Text	ditto.	
3	Firmware Version 1	Firmware_ver1	firmware version of the target device	Yes	-	Text	ditto.	
4	Individual Driver Startup Name 1	Driver_name1	name of the driver which is started at the time of control request of the target device * specified in absolute path	Yes	-	Text	ditto.	
5	Individual Driver Class Name 1	Driver_class1	name of the class which is started at the time of control request of the target device	Yes	-	Text	ditto.	
6	Platform Name 2	Platform_name2	same as the first equivalent	Yes	-	Text	ditto.	
7	Driver OS 2	Driver_os2	same as the first equivalent	Yes	-	Text	ditto.	
8	Firmware Version 2	Firmware_ver2	same as the first equivalent	Yes	-	Text	ditto.	
9	Individual Driver Startup Name 2	Driver_name2	same as the first equivalent	Yes	-	Text	ditto.	
10	Individual Driver Class Name 2	Driver_class2	same as the first equivalent	Yes	-	Text	ditto.	
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Append lines every time when devices are added in the future.

conf_sys_common.conf

The table below shows the detail of items which are managed in this configuration file.

No.	Item Name	Key	Description	Required?	Default Value	Type	in case invalid value is set	Remarks
1	DB Server Address	DB_server_address	DB server address	Yes	0.0.0.0	Text		
2	DB Access Port Number	DB_access_port	DB access port number	Yes	5432	Numeral		
3	DB Access User Name	DB_user	DB access user name	Yes	-	Text		
4	DB Access Password	DB_access_pass	DB access password	Yes	-	Text		
5	DB Access Table	DB_access_table	DB access table	Yes	-	Text		
6	Timer Value: confirmed-commit Configuration Time (ms)	Timer_confirmed-commit	the timer value (ms) set in confirmed-commit	Yes	30000	Numeral		
7	Timer Value: confirmed-commit EM Internal Adjustment Time (ms)	Timer_confirmed-commit_em_offset	EM internal adjustment value (ms) for confirmed-commit Both positive and negative vales are allowed.	Yes	0	Numeral		The sum of this value and that of Timer_confirmed-commit is set to the timer.
8	Timer Value: Netconf Protocol Timer Configuration Time (ms)	Timer_netconf_protocol	NETCONF protocol timer value (ms)	Yes	60000	Numeral	The default value is set.	
9	Timer Value: Signal Reception Waiting Timer Configuration Time (ms)	Timer_signal_rcv_wait	signal reception waiting timer value (ms)	Yes	1000	Numeral	The default value is set.	
10	Timer Value: Thread Stop Monitoring Timer Configuration Time (ms)	Timer_thread_stop_watch	thread stop monitoring timer value (ms)	Yes	200	Numeral	The default value is set.	
11	Timer Value: Transaction End Monitoring Timer Configuration Time (ms)	Timer_transaction_stop_watch	transaction end monitoring timer value (ms)	Yes	200	Numeral	The default value is set.	
12	Timer Value: Transaction DB Monitoring Timer Configuration Time (ms)	Timer_transaction_db_watch	transaction DB monitoring timer value (ms)	Yes	100	Numeral	The default value is set.	
13	Timer Value: Connection Retry Time (ms)	Timer_connection_retry	connection retry timer value (ms)	Yes	5000	Numeral	The default value is set.	
14	The Number of Connection Retries	Connection_retry_num	the number of connection retries	Yes	5	Numeral	The default value is set.	
15	Log File	Em_log_file_path	Specify the log file path of EM.	Yes	-	Text	Log cannot be saved correctly.	
16	Log Level	Em_log_level	Specify the log level of EM	Yes	DEBUG	Text		
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conf_separate_driver_cisco.conf

The table below shows the detail of items which are managed in this configuration file.

No.	Item Name	Key	Description	Required?	Default Value	Type	in case invalid value is set	Remarks
1	I/F Name Prefix 1	IF_Name1	conventional prefix of the corresponding I/F name	Yes	-	Text	No default value can be set for this item.	Reference Value: TenGigE
2	mtu owner Value 1	IF_Owner_Name1	the corresponding I/F's mtu owner value which is to be injected to the device	Yes	-	Text	No default value can be set for this item.	Reference Value: TenGigE
3	I/F Name Prefix 2	IF_Name2	conventional prefix of the corresponding I/F name	Yes	-	Text	No default value can be set for this item.	Reference Value: HundredGigE
4	mtu owner Value 2	IF_Owner_Name2	the corresponding I/F's mtu owner value which is to be injected to the device	Yes	-	Text	No default value can be set for this item.	Reference Value: HundredGigE
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Append lines every time when the patterns to be registered are increased in the future.