ION Core 4.1.2a	y = included	Status: y=included p=please add c=check		
Last Update: 2/1/2024	p = please add			
	c = check			
Modules and its library do not always have one-to-one correspondence to file directory				
Modules	**Status:**	**Executables/Library**	**Description**	**Notes**
ici	y = included	ionadmin		
	y = included	ionwarn		
	y = included	rfxclock		
		file2sdr		
		file2sm		
		ionexit		
		ionlog	utility for redirecting stdin to the ION log file	
	y = included	ionrestart	ionrestart is a utility task that is executed automatically when an ION transaction fails, provided transaction reversibility is enabled (see ionconfig(5)). It should never need to be executed from the command line.	
	y = included	ionscript	script	
		ionsecadmin	ION global security database management interface	
	y = included	ionstart	script	
	y = included	ionstart.awk	script	
	y = included	ionstop	script	

		ionunlock	The ionunlock program is designed to be run when some ION thread has terminated while it is the owner of the node's system mutex, i.e., while in the midst of an SDR transaction. IT MUST NEVER BE RUN AT ANY OTHER TIME as it will totally corrupt a node that is not locked up. The program simply declares itself to be the owner of the incomplete transaction and cancels it, enabling the rest of the system to resume operation	
y = included		ionwarn	Used for computing congestion forecast at an ION node based on contact plan.	
		ionxnowner	report on which threads are initiating SDR transactions	
y = included		killm	script to terminate all ION related processes	
ici - utility		psmshell		
y = included		psmwatch		
		sdr2file		
		sdrmend		
y = included		sdrwatch		
		sm2file		
		smlistsh		
		smrbtsh		
		tcp2file		
		udp2file		

bpv7	y = included	bpadmin		
	y = included	bpclm		
	y = included	bpclock		
	y = included	bptransit	bptransit is a background "daemon" task that is responsible for presenting to ION's forwarding daemons any bundles that were received from other nodes (i.e., bundles whose payloads reside in Inbound ZCO space) and are destined for yet other nodes. In doing so, it migrates these bundles from Inbound buffer space to Outbound buffer space on the same prioritized basis as the insertion of locally sourced outbound bundles.	
	y = included	bpversion	script to display the bpversion	
	y = included	bpextension	Interfaced to enable adding extension blocks without modifying core ION bp code. bpv7/library/bei.h and bei.c	
	y = included		pbn (previous node)	
	y = included		qos (quality of service)	
	y = included		meb (metadata)	
	y = included		bae (bundle age)	
	y = included		hcb (hop count)	
	y = included		snw (spray and wait)	
	y = included		imc (bundle multicast)	
	y = included		bib (bundle integrity)	
	y = included		bcb (bundle confidentiality)	
			cgrr (cgr route extension)	
			rgr (register route extension)	
bpv7 - ipn	y = included	ipnadmin		
	y = included	ipnadminep		
	y = included	ipnfw		

bpv7 - ipnd		ipnd	
bpv7 - bibe		bibeadmin	
		bibeclo	
bpv7 - bpsec	y = included	bpsecadmin	
bpv7 - brs		brsccla	
		brsscla	
bpv7 - load and go	y = included	lgagent	
	y = included	lgsend	
bpv6 - load and go		lgagent	
		lgsend	
bpv6		bpadmin	
		bpclm	
		bpclock	
		bptransit	
		ipnadmin	
		ipnadminep	
		ipnfw	
		bpversion	
bpv6 - acs		acslist	
bpv6 - brs		brsccla	
		brsscla	

bpv6 - ipn		ipnadmin	
		ipnadminep	
		ipnfw	
bpv6 - ipnd		ipnd	
ams		amsmib	
		amsshell	
		amsstop	
		ramsgate	
bss		bsscounter	
		bssdriver	
		bssrecv	
		bssStreamingApp	
bpv7 - bssp		bsspadmin	
		bsspcli	
		bsspclo	
		bsspclock	
		udpbso	
		udpbsi	
		tcpbso	
		tcpbsi	
bpv6 - bssp		bsspadmin	
		bsspcli	
		bsspclo	

		bsspclock		
		udpbso		
		udpbsi		
		tcpbso		
		tcpbsi		
bpv7 - stcp	y = included	stcpcli		
	y = included	stcpclo		
bpv6 - stcp		stcpcli		
		stcpclo		
bpv7 - tcp		tcpbsi		
		tcpsbo		
bpv6 - tcp		tcpbsi		
		tcpsbo		
bpv7 - udp	y = included	udpcli	Add UDP for testing purposes only	
	y = included	udpclo	Add UDP for testing purposes only	
bpv6 - udp		udpcli		
		udpclo		

cfdp		bputa		
		cfdpadmin		
		cfdpclock		
		cfdptest		
		tcputa		
bpv7 - cgr		cgrfetch	script to perform a simulated CGR routing	
bpv6 - cgr		cgrfetch		
bpv7 - cpsd		cpsd	contact plan synchronization daemon	
bpv6 - cpsd		cpsd		
bpv7 - dccp		dccpcli		
		dccpclo		
		dccplsi		
		dccplso		
bpv6 - dccp		dccpcli		
		dccpclo		
		dccplsi		
		dccplso		

dgr		dgr2file	
		dgrcli	
		dgrclo	
		file2dgr	
dtpc		dtpcadmin	
		dtpcclock	
		dtpcd	
		dtpcreceive	
		dtpcsend	
bpv7 - imc	y = included	libimcfw	
bpv6 - imc		imcadmin	
		imcadminep	
		imcfw	
tc - dtka		dtka	
		dtkaadmin	
bpv7 - dtn2		dtn2admin	
		dtn2adminep	
		dtn2fw	

bpv6 - dtn2		dtn2admin	
		dtn2adminep	
		dtn2fw	
dtpc			
ltp	y = included	ltpcli	
	y = included	ltpclo	
	y = included	ltpclock	
	y = included	ltpdeliv	
	y = included	ltpmeter	
	y = included	udplsi	
	y = included	udplso	
		ltpcounter	
		ltpdriver	
		ltpsecadmin	
		sdatest	LTP service data aggreggation test program
mn		nm_agent	
		nm_mgr	
restart	y = included	ionrestart	
tc		tcaddmin	
		tcaboot	
		tcacompile	
		tcapublish	
		tcarecv	

		tcc		
		tccadmin		
manpages	y = included		Useful for development	
bench tests				
utilities	y = included	bprecvfile		
	y = included	bpsendfile		
	c = check	bprecvfile2	new utilities added to ION 4.1.2	
	y = included	bpsink		
	y = included	bpsource		
		bpcancel		
	y = included	bpchat		
	y = included	bpcounter		
		bpcp		
		bpcpd		
		bpcrash	A test support program that simply forces a transaction crash, to trigger restart.	
	y = included	bpdriver		
	y = included	bpecho		
	y = included	bping		
	y = included	bplist	bplist is a utility program that reports on bundles that currently reside in the local node, as identified by entries in the local bundle agent's "timeline" list.	
		bpnmtest	bpnmtest simply prints to stdout messages containing the current values of all BP network management tallies, then terminates.	

y = included	bpstats	bpstats simply logs messages containing the current values of all BP processing statistics accumulators, then terminates.	
	bpstats2	bpstats2 creates bundles containing the current values of all BP processing statistics accumulators.	
y = included	bptrace	bptrace uses bp_send() to issue a single bundle to a designated destination endpoint, with status reporting options enabled as selected by the user, then terminates. The status reports returned as the bundle makes its way through the network provide a view of the operation of the network as currently configured	
	owltsim		
	owlttb		