

Sulawesi, 2015 Zulu, Tuesday, 28 April

Captain Radit 'Raptor' Jatawaman was scrambled from Hasanuddin Air Force Base outside Makassar, Sulawesi, one of the Indonesian air force's largest installations. Despite the early start, he was out of bed and into his flying suit before he realised it, his brain lagging behind his body. He was summoned to the briefing room and given the details of the mission he was about to fly by a high-ranking officer who was a stranger to him. The objective shocked him but he somehow managed to keep the surprise out of his face. Timing was tight. He grabbed his helmet from flight stores and ran to his Lockheed Martin F-16A, parked on the apron.

Ground engineers surrounded the aircraft. Ordnance officers checked that the AIM-9L sidewinder missiles, one on each wingtip rail, were correctly attached. The fuel cart drove off.

The F-16A was the premier front-line fighter of the Tentara Nasional Indonesia – Angkatan Udara, or TNI-AU, the Indonesian air force. Raptor was relatively new to the squadron, and he was proud to be one of the elite drivers. The aircraft had been pre-flighted and was ready to go. He hopped in, fastened his harness with the help of a ground crewman, jacked in his phones and began spooling up the Pratt & Whitney.

Once airborne, Captain Jatawaman received his interception coordinates. The F-16 climbed through 18 000 feet before Raptor turned sharply right. He levelled the aircraft out less than a minute later at 39 000 feet in clear, moonlit air. It wasn't long before he saw the 747 sitting in the sky

four kilometres away in his three o'clock-low position, just where it should be. The seven-four appeared motionless, bobbing on an ocean of Indian ink, lit as if for a party.

The captain went to full military power and accelerated high over the 747. When he was fully twenty kilometres in front of the passenger jet, he dived back towards it on a bearing that would take the F-16 shooting down the 747's port side. It was a totally unnecessary manoeuvre but Raptor felt like playing. The game was cat and mouse.

Captain Jatawaman began the three-g pull-up on his F-16 the instant his aircraft rocketed past the giant kangaroo on the 747's tail.

Luke Granger yawned and lifted his eyes to the front windows as a ghostly dart blew past. 'Shit!' he exclaimed, his head spinning around in an attempt to keep it in view. The captain and second officer almost seemed to jump, even though they were both strapped in.

'What?' asked Flemming, craning his neck, eyes scanning the instruments in a reflex action.

'I . . . I'm not sure,' he said. 'I think something fast just went past us. Pretty close.'

'I didn't see anything. Are you sure?' asked Rivers, looking out the window, craning her neck to see down the 747's flank.

'No, but . . .' Granger wasn't sure. He'd been daydreaming, mind not really on the job. Was it possible that some kind of military fighter had just buzzed them?

He'd practised the manoeuvre himself hundreds of times. It was almost basic training for dogfighting: two aircraft flew head-on at each other, passing no more than fifty feet apart. Both aircraft would then pull up into inside climbing turns – known as high yo-yos – rolling

out at the top to gain as much height as possible. The two aircraft would then continue turning in at each other in a succession of high and low yo-yos until one managed to turn inside the other and bring its guns/cannon/missiles to bear, or one of the aircraft ran out of sky and ploughed into the ground.

Have we just been challenged to a dogfight? No way, he decided. The outcome of such a thing overloaded his common sense. It could also have been . . . what? A bit of cloud?

Rivers relinquished the left-hand seat to her captain, climbing out of it as if it were quicksand. 'I have the aircraft,' said Flemming, once he'd strapped in.

'You have the aircraft,' Granger said, trying to recall exactly what it was he'd seen.

The jumbo, although a lumbering barge compared to Raptor's F-16, was cruising close to the speed of sound at .82 mach. If he was careless, the barge would slip outside his envelope of opportunity. Fuel reserves for this interception weren't unlimited.

Raptor rolled out of the yo-yo 1000 feet above the 747. He was positioned perfectly, high and behind the flying kangaroo. He hung there briefly, like a wasp poised for the kill. Raptor opened the throttle to close the distance. It was too easy.

Raptor's squadron had been flying almost constantly this last six months. It was a welcome relief after the years of only part-time flying. The financial crisis of '97 had hit his squadron hard. There was not enough money for spares. Not enough money for missiles. Not even enough money for fuel. The lowest point for his squadron was the realisation that only three F-16s were serviceable.

The country was falling apart. Morale was nonexistent. And then suddenly, virtually overnight, the money started pouring in. Spares and fuel became available, and he logged more hours in the next six months than over the previous three years. Flying, dogfighting, was why he joined the air force. Now he felt invincible. Let me go head-to-head with one of those Australian F/A-18s, he often wished. Shooting down a Qantas 747 was hardly the contest he'd hoped for. He reminded himself of the briefing officer's assertion that there were sound tactical reasons for the action.

The Indonesian pilot swooped behind the 747. He hung above his quarry's tail, keeping the distance between the two aircraft constant, and depressed the radio transmission button on the throttle a half dozen times, broadcasting clicks in a pre-agreed sequence that announced he was in position to make the shot. Raptor allowed his F-16 to fall back behind the 747; the AIM-9L sidewinder needed more air to get a lock on the Boeing's giant Rolls-Royce turbo fans.

He activated the missile's targeting system and watched the glowing red diamond float across the Head Up Display searching for prey. A tone sounded through his helmet phones. The missile's fire control system had locked on to the 747's right-hand, outboard engine. Raptor expected that. The AIM-9 was a heater. It was attracted to an object's infrared signature, its heat output, and an outboard engine had a greater heat differential between itself and the surrounding freezing high-altitude air than an inboard turbine snuggled against the warm fuselage.

Seconds later, he received the clicks from Hasanuddin AFB, confirmation that gave him permission, or rather the order, to fire the missile. A moment of doubt punctured

Raptor's conscience. But the uncertainty lasted for the briefest instant in a part of his brain that had long been subdued by hundreds of hours of training.

His finger depressed the fire button on his side stick controller. It was a subconscious reaction to the command, like the way a leg twitched when the knee was tapped with a hammer. The missile slid from its rail. He watched it snake until its guidance system stabilised the missile and delivered the warhead unerringly to the target. It flew up the tail pipe of the Rolls-Royce engine where the fragmentation warhead, packed with 3.6 kilos of HE, detonated. Red-hot metal spikes ripped through the engine and annihilated its delicate balance. The massive turbine, now with smashed bearings and spinning at 3500 rpm, leapt out of its housings, blasting the shattered titanium fan blades into the thin air.

Raptor watched the destruction from his dress-circle position. The 747's outboard engine was utterly destroyed. The monster staggered, smoke trailing from the wound like a long piece of gauze dressing.

'Jesus, what the hell . . .' said Joe as the plane bucked and kicked unexpectedly, bouncing the Apple off his table and into his lap. The sleeping passengers woke, bewildered. The cabin was rapidly filling with engine noise and the smell of burning grease. Joe looked around to see what was happening. There was confusion on the faces of the passengers he could see. Their mouths were slightly open and they were looking around, like him, trying to establish what was going on.

Joe was immune to the usual aircraft noises and jolts he considered normal. He believed himself a comfortable flyer because he had done so much of it. The whirrs, pops

and bangs that usually alarmed less seasoned travellers he took in his stride. But now that the plane was behaving in a manner outside his experience, Joe realised how genuinely afraid of flying he was. There was obviously something very wrong, only his conscious mind was refusing to accept the full and terrifying implications. Namely, that the aircraft was somehow poised on a knife's edge of destruction and that, as a consequence, so was he.

The groan of metal tearing and breaking underscored the vibration increasing in intensity. Joe realised then that the plane was ripping itself apart.

The last of the sleeping passengers woke. The quiet, vaguely uncomfortable environment they'd dozed off in was now filled with ear-splitting noise and a shaking that was jarring them out of their seats. Their reaction to this frightening new dawn was unanimous. They panicked.

The routine work of the flight deck suddenly became anything but. The sudden jolt followed by a high frequency vibration told them that there was a serious problem somewhere. Alarms began to sound. Both pilots scoured the sea of lights and dials to discover exactly what that problem was.

'Disengaging autopilot,' said Flemming.

'Autopilot disengaged,' confirmed Granger after the appropriate switch had been flicked. Flemming instantly felt an unusual weight on his control column.

The digital temperature readout for number four engine was unbelievably high, and climbing. While he watched it with a morbid interest, the Engine Overheat light illuminated, followed an instant later by the warning bell. The Fire Warning switch also glowed with an array of other lights that had, only moments before, been dim.

'Jesus Christ,' exclaimed Granger. 'Engine fire!' What the hell caused that? He hit the Bell Cutout switch on the glare shield, silencing the alarm that filled the cockpit and his 'phones.

'Identify fire,' said Flemming.

'Engine fire number four,' Granger replied.

Luke stared at the electronic dials on the panel between them. Temps in the right-hand outboard engine had climbed way into the danger zone. All the instruments for fuel flow, even temperatures, had been absolutely normal not five minutes ago. Whatever it was, it was catastrophic. From the vicious shaking of the aircraft, it was probably a severe engine failure caused by . . . ? What? Jet engines, while delicately balanced, were also extremely robust.

What they had here was not a phantom problem, neither was it a drill. A fire on an aircraft, no matter how big or small the plane, was a major concern. The temperatures produced inside a jet turbine were easily hot enough to melt aluminium, and that's exactly what the wing above the engine was made of.

'Number four thrust lever,' called Flemming.

'Confirmed,' said Granger, seeing his captain's hand on the correct lever.

Flemming responded by snapping closed the throttle lever for number four engine. 'Closed,' he said.

'Number four cut-off switch,' said Flemming. When he saw that Granger's hand was on the correct switch he commanded, 'Cut off!'

Granger shifted the switch to the appropriate position. 'Cut off,' he confirmed.

'Number four fire warning switch,' Flemming said. Granger had fallen behind the sequence. Granger quickly

placed his hand on the glowing switch. He glanced at Flemming.

'Pull!' commanded the captain.

Granger tugged the switch. 'Pulled!'

Instantly, shut-off valves for the hydraulic, engine bleed air and fuel were activated, starving the fire of combustible mixtures.

Flemming and Granger both stared at the Fire Warning light. It remained illuminated.

'Fire the bottle,' said Flemming.

Granger rotated the switch that discharged a canister containing fire-suppressing foam in the engine nacelle. 'Bottle fired!' A light came on announcing that the bottle had indeed been discharged.

Luke found himself leaning forward in his seat, willing the array of illuminated fire warning lights in front of him to go out. They did not. The engine was shut down, starved of fuel, oil and air, covered in fire retardant foam but, according to the instrument lights, a fire still burned out there under the wing. Jesus!

'Fire the second bottle,' Flemming said.

Granger rotated the switch the opposite way. 'Bottle fired!'

Surely the fire would now be extinguished. The pilots focused on the warning light, willing it to wink off. It didn't.

Shockwaves pulsed through the 747. They shook the plane so hard that Granger's teeth clattered.

'We're going to have to land asap,' said Captain Flemming, busily setting the aircraft up for an orderly descent to an altitude where the 747 could fly slower in thicker air. 'What's the nearest airport?'

Granger knew every strip along his route sector, but

there was only one within range long enough to take a 747. 'Hasanuddin Air Force Base. Force landed there once before with the squadron. Doubles as a civilian airport. But we'll have to turn around. It's a twenty-minute backtrack.'

'Okay.' Flemming paused and added, 'I hate to think what's going on behind us.'

Luke nodded.

'Better let the poor buggers know what's going on,' Flemming said. 'Once we level off, Luke, go back and have a look out the window. You probably won't see much, but you never know.'

The intense heat of the fire burned through the bolts that fixed the engine under the wing and it dropped away like a bomb.

Joe had stopped panicking. He had retreated into shock, along with most of his fellow passengers. The plane felt like it was falling, sliding sideways and downwards. People around him were screaming, but Joe didn't hear them. Something caught his attention. There was a yellow glow coming from somewhere outside the cabin. He wondered if it was an angel come to their rescue. He looked out the small window, squashing his face against the cold Perspex to get a better view. Whatever it was, it was somewhere out on the end of the wing. He couldn't quite work out exactly what it was, but it wasn't an angel. Joe realised it was a fireball, just as it fell away from sight into the blackness below. Was that an engine? he wondered, before discounting the possibility.

Instantly the pitch of the vibration changed. It stopped almost completely, along with the loud rumble that sounded like a freight train running over points just beside his head.

Flight attendants were working the aisles, moving back and forth in an attempt to calm the inconsolable. But any reassurances they gave were at odds with the reality of the moment. Screams continued to fill the cabin. Some people, Joe saw, had already assumed the crash position. His stomach convulsed and he vomited onto the floor between his feet.

Raptor was vaguely disappointed. He had hoped a second missile wouldn't be needed. That was wasteful.

The F-16's fire control system was still activated. He toggled through the missile's target acquisition options, shifting the little red diamond presented on the HUD from one engine to another. He considered which engine to take out next. He let the diamond settle on the right-hand inboard turbine.

His F-16 was only carrying two AIM-9 sidewinders, so this one had to finish the job. He wondered if the 747 had self-sealing fuel cells. If not, a hot sliver of metal – perhaps a burning fan blade – puncturing a wing tank would do the job nicely. Tone sounded in his headphones and he depressed the firing button on the control column operated by his right hand. Raptor gave a mental shrug as the missile flew on its way. The animal was wounded. All he was doing was putting it out of its misery.

Flying at greater than Mach three, the AIM-9 closed the distance in an instant. The warhead smashed into the Rolls-Royce's exhaust. The explosion blew a large section of the engine's secondary compression rotor into the adjacent fuselage, ripping a hole more than a metre wide in the side of the plane. The 747's cabin instantly depressurised.

The titanium blades torn from the engine became shrapnel. The deadly cloud of spikes speared the fuselage in the

economy section, shredding three friends sitting together, all of whom were so drunk that, thankfully, they had no idea what was going on. The three, still strapped in their row of seats, were blown out of the hole in the side of the 747 and into the freezing vacuum of the upper atmosphere.

There was an explosion followed by a shockwave that rippled down the skin of the plane, and the air turned instantly milky white with mist. Frost glazed the window beside Joe's face. He was startled, and frightened, but he felt removed from the scene at the same time, as if watching a movie. A roaring sound filled his ears, along with intense pain in his eardrums. The screams were all around him and the loudest of all, he realised, rose from his own throat.

Raptor saw what appeared to be a group of seats tumble out of the hole in the fuselage, but he wasn't sure. The jumbo's wounds now appeared mortal. It was falling away to the right. Slowly at first, then faster. The fall became a plunge. Raptor followed the 747 into the accelerating dive. The two aircraft picked up speed, engine thrust and gravity combining with frightening exuberance.

The F-16's altimeter wound down, counting back through the thousands of feet in a matter of seconds.

Granger and Flemming were checking their instruments, and Rivers was setting up the coordinates of Hasanuddin in the Flight Management Computer, when the second missile hit. The 747 yawed violently with the blow.

The flight deck instantly filled with mist as the rapid pressure change condensed all the water vapour out of the air. 'Jesus Christ!' shouted Granger as warning lights illuminated and flashed, lighting up the panel in front of him like a city after sunset. His ears popped viciously with the

sudden change in pressure. The cabin rate-of-climb indicator was racing. A warning horn sounded. Granger hit the Alt Horn Cutout switch to silence it. The air pressure inside the 747 was rapidly equalising with the air pressure outside – at around 30 000 feet, an environment lethal to humans.

The flight crew immediately fitted their oxygen masks. Granger checked that the breathing system for the flight crew was correctly pressurised, and that the Pass. Oxygen On light was illuminated, indicating that the passengers were also getting theirs. The captain hit the switch that instructed the passengers to fasten their seatbelts. It was an odd thing to do in the circumstances, thought Granger, as if the passengers were all standing around in the aisles, unperturbed and unaware of the current critical situation. But it was procedure and couldn't be argued with.

'Emergency descent,' said Flemming loudly, his voice muffled by the oxygen mask. He selected the PA and announced as calmly as he could, 'This is the captain. Emergency descent.'

Granger immediately dialled up the frequency for Air Traffic Control to advise them of QF-1's intention to descend to 3000 metres, and obtain the QNH for the area – the correct local air pressure at sea level that would allow them to rescale their altimeters for an accurate altitude reading.

He made the call and listened. Nothing. He tried again. Nothing. He checked the communications panel quickly. Jesus! It was completely dead, not even receiving power. They had no communications. They were completely cut off. Adrift. He couldn't let that distract them so he kept the knowledge to himself.

Flemming relentlessly continued the checklist for an emergency descent. 'Engine start switches.'

The number three engine now had a fire. They shut it down and fired both bottles. Granger, Flemming and Rivers had punishing earaches and stomach cramps from the gases expanding inside them. They were in excruciating pain, as was everyone in the aircraft. At this altitude, their blood was almost at boiling point and there was intense pressure building up in the cavities in their heads. Blood flowed freely from Flemming's nostrils into his oxygen mask. Start switches for engines one and two were selected to the On position.

'Thrust levers.' Flemming pulled the levers to the closed position and announced it.

'Closed!' yelled Granger into his mask.

The captain and first officer were themselves operating on a kind of autopilot with routines ingrained through hours of simulator time. They continued through the checklist, setting up the aircraft for the emergency descent.

The 747 began to pick up speed as it dived steeply towards the earth. The numbers on the altimeter rolled off backwards.

The seatbelt across Joe's lap was done up so tightly that he was getting pins and needles in his feet. The mask dropped down in front of his face and he looked at it dumbly, not immediately knowing what it was for. Then he felt as if he was plunging over a waterfall. He grabbed the seat in front of him, reaching out to it in an attempt to stop the fall. The engine pitch increased to a wail. Joe believed the end was near.

Granger called out their altitude in increments of 5000 feet as the aircraft accelerated. 'Flight Level three-zero-zero!'

Their rate of descent increased to the near vertical and the big aircraft shook frighteningly. 'Two-five-zero!'

Raptor watched his prey lurch viciously in its dive. He had expected the aircraft to explode in a ball of flame and was disappointed that it hadn't.

Still, the fighter pilot had seen enough file footage from gun cameras to know a kill when he saw one. There was only one possible outcome for the stricken 747. He retarded the throttle and slipped back a safe distance behind the giant. If the 747 did explode and his F-16 was too close, he risked bits of the disintegrating Boeing being inhaled into his engine, with disastrous results.

Joe strained against his seatbelt as the 747 screamed in its dive. He sucked oxygen from the yellow cup, the tangle of masks hanging like jellyfish tentacles in front of his face. He blinked through the frigid mist. His window was glazed with frost. The pain in his ears was searing. His stomach cramped in agony.

Across the aisle a middle-aged man's face had turned blue, white froth bubbling from purple lips. Joe stretched over and tried to pull an oxygen mask over his nose and mouth, but his arm felt heavy, like it was strapped with weights. It took him several attempts to get the mask on. Every time he almost managed to secure the cup over the man's face, the aircraft's pitching jolted his hands, spoiling the attempt.

Joe could see people screaming, but he couldn't hear the sounds they made. He wondered whether he was experiencing some kind of sensory overload, then realised it was because the roar coming from somewhere inside the aircraft was deafening, obliterating everything else.

Some people weren't yelling, having retreated into a semiconscious, almost primal state. They cried or whimpered, rocking in their seats. Some were just clutching each

other, even people who had been complete strangers only minutes before.

The aisles were blocked by the contents of the overhead lockers that had burst open. Two rows in front of Joe, a heavy briefcase fell from an overhead locker and clubbed a woman senseless.

Unidentifiable lumps were tumbling down the aisles. It dawned on Joe's slow, oxygen-starved brain that the objects were people whose seatbelts probably hadn't been buckled. The bodies accumulated at the forward bulkhead. Joe noted that most of the faces he could see in the growing pile of rags were blue. He stared at them as an observer removed from reality, in shock, disbelieving. Perhaps they're dead, he thought, and then he realised that they were.

The thin air provided little in the way of resistance and the 747's descent rate built frighteningly. 'Two-zero-zero!' shouted Granger. 'One-five-zero!' The aircraft shook and trembled. The speed increased. The air protested as the monster tore a hole through it. The cockpit filled with the shriek. The numbers winding backwards on the altimeter transfixed the three pilots. The 747 nudged its speed of maximum operation, 0.92 Mach. And then its rate of descent began to slow as the air thickened, just as the manual said it would.

Flemming pulled back on the control wheel and the aircraft's nose began to rise slowly.

'Three thousand feet to altitude.' Granger continued the countdown.

The g-forces built, driving the pilots and passengers into their seats.

'Two thousand feet to altitude.'

The aircraft rumbled and shook, angrily protesting against the loads acting on it.

‘One thousand feet to altitude.’

The captain eased the control forward to the neutral position as the jumbo levelled out.

‘At altitude!’ announced Granger, sweating profusely.

The 747 sat on 10 000 feet, just above a blanket of stratus cloud.

‘The Lowest Safe Altitude in these parts is around eight thousand feet!’ Rivers said, yelling the information as she juggled a bunch of maps and charts. ‘We’ve got Mount Kambuno with a spot height of around eight thousand nine hundred feet, but I think it’s to the north of our position!’ She checked the aircraft’s FMC. She noticed for the first time that both the flight navigation and directional instrumentation were dead. Shit! There was no way of knowing for certain exactly where they were. Nevertheless, she was still reasonably sure of their position.

‘LSA, eight thousand,’ confirmed Granger. He checked the altimeter. They were at 10 000 feet. That meant just 2000 feet of air between them and the end of Qantas’s perfect fatality-free record.

The hydraulics pressure warning light flashed. Granger and Flemming checked the pressure gauge. It was falling. Hydraulics – oil – was the aircraft’s blood. The 747 had four redundant hydraulics systems. Something had taken them all out of operation. The aircraft only needed one of those systems to operate the flaps, ailerons, elevator and undercarriage. Without those control surfaces, the plane was not flyable. Or landable.

Flemming took his foot off the left rudder pedal. The 747 yawed to the right with the asymmetrical thrust provided by the two good engines on the left wing. The effect

on the dropping hydraulics pressure was slight but significant. Mercifully, it decreased.

The 747 was capable of maintaining altitude on two engines, even climbing slowly, but with falling hydraulics pressure they were merely forestalling the inevitable.

The three pilots on the flight deck knew that their lives hung by the barest of threads. If they turned the plane around using the ailerons, elevator and rudder, the drain on the hydraulics system could mean there wouldn't be enough pressure left to lower the flaps or undercarriage for landing. And with both engines on one side of the plane inoperable, attempting to steer it with the throttles wasn't an option.

'The news gets worse,' said Rivers, ripping off her oxygen mask along with Granger and Flemming. They were now in a breathable atmosphere.

Thick, crimson blood slopped from the captain's mask. 'It's okay,' he assured them, waving his hand dismissively before wiping his nose with the sleeve of his white shirt.

Rivers checked the FMC. 'We've got no radios, no transponders, nothing.'

'Yeah, saw that,' nodded Granger.

All three of them looked at the displays, which were usually filled with numbers. Blank. The 747 carried two VHF (line-of-sight) radios, an HF (long distance) radio and two transponders, transmitters that painted their 747 on air traffic control screens on the ground. Surely they couldn't all be stuffed?

The 747 began to sink slowly through 10 000 feet, the LSA. Now that it was yawing due to unequal thrust provided by the two remaining engines on the left wing, the aircraft was presenting more of its surface area to the airflow. That meant more friction, and therefore more power was needed

to overcome it if they were to continue flying level. Flemming goosed the throttles slightly. The added thrust stabilised the aircraft again at 10 000 feet. Soon, however, there would be no hydraulic pressure at all. The weight of the control surfaces themselves would force them to sag, and the 747 would begin an accelerating spiral into the ground.

A decision needed to be made. And fast.

‘Opinions?’ asked Flemming.

‘Force land somewhere here,’ said Granger. ‘I don’t know how much time we’ve got. At least if we put her down now, we’ll be able to manoeuvre a little, and maybe get our flaps and gear lowered.’

‘Agreed,’ said Rivers, her voice tight. With no hydraulics, they had ceased to become pilots. They were now merely passengers at near-useless controls, riding in a 250 000 kilogram missile loaded with tonnes of fuel.

‘Agreed,’ echoed the captain. ‘Dump as much gas as we can. And get off a Mayday call.’

Rivers looked blank. Their radios were dead. ‘But captain, the —’

Flemming answered her expression. ‘You never know.’

The nose of the 747 fell towards the soft, silver lake of stratus cloud spread out below them. But was a mountain hidden somewhere within it? Or did the cloud extend all the way to the ground? In either case they would simply drill a large hole in the earth and never see it coming. All three pilots on the flight deck held their breath as the first wisps of silver slid over their windows. In an instant, the stars were obliterated.

Raptor couldn’t believe his eyes when the seven-four pulled out of its dive, seemingly in control, above the cloud. What do I have to do to score a kill? he asked himself.

His fuel pressure and contents were still okay so he decided to wait. There was plenty of smoke trailing from the 747. The drama was not over yet. He smiled with satisfaction when the 747 began to nose under the cloud. There was rugged country beneath. Lots of immovable things to fly into. No 747 pilot would dip below 10 000 around here. Unless there was no choice.

Raptor watched as the 747 slipped below the surface of the cloud like a torpedoed ship ploughing under a ghost sea. This was getting interesting. He beamed the jumbo with active radar and followed it down from a safe distance.

When the plane levelled out of the dive, Joe couldn't believe he was still alive and that the plane hadn't crashed. The stench of vomit filled his nostrils. Much of the vibration had stopped but there was still a fair amount of noise. His mind was starting to grapple successfully with reality. He tried to place the noise and decided it was both wind and engine roar. Most of the passengers were calm now, as if resigned to their fate, whatever it would be. That was certainly Joe's outlook. He reflected on the fact that death by plane crash was an awful, protracted way to die. It had been going on now for, he checked his watch, more than ten minutes. At least it gave you some time to say goodbye. 'Goodbye,' he said aloud, testing the realisation. No one said anything back.

Bali, 2036 Zulu, Tuesday, 28 April

Abe Niko, a Japanese traffic controller on contract at Denpasar Airport, blinked with surprise. At this hour of the

morning the skies were pretty quiet. There were only four aircraft on his screen: a KLM 747 out of Melbourne, Australia, bound for Amsterdam via Singapore, a Garuda 767 en-route to Jakarta, a weather delayed Qantas 747 headed for London, and a private Beech Baron on an intra-island flight, inbound, sixteen miles from the Denpasar runway.

The Qantas plane was on the screen and then it wasn't. It had gone, vanished! The suddenness of the disappearance made him blink, as if he wasn't sure what he'd just seen. Qantas Flight 1. Abe's brain worked hard to lift itself out of the torpor induced by a combination of boredom and the early morning hour. Shit, that could mean only one of two things. The first was that the aircraft's transponders had become unserviceable. That was highly improbable. The second more likely possibility? Well, that was too ghastly to even contemplate. He noted the time – 4.36 am local time. Abe picked up the phone and hurriedly found a line out.

The radio clicks exchanged between the Indonesian pilot and his controller joined the traffic on Ruth Styles' desktop at NSA Hawaii. There was a lot of activity going on there, she thought, given the time of day, or rather, night. She tagged it with an asterisk and sent it on.

QF-1 shot out of the cloud base, stratus swirling in a vortex behind it. The high country of central Sulawesi that filled the pilots' windshields was the antithesis of the friendly winking threshold strobe lights of a commercial runway.

Flemming, Granger and Rivers gaped at the rugged ridge lines below them, and the occasional mountain face

that rose above them: they knew they only had a few minutes to live.

What was now uppermost in their minds was giving everyone as much chance as possible to survive the landing. Flemming and Granger trimmed the aircraft for a descent rate of 500 feet per minute. The aircraft shook and bucked in protest but obeyed the pilots' commands.

Flemming flicked the intercom switch and addressed his passengers and flight crew. 'This is Captain Flemming. Both the engines on the right-hand wing have failed. Without them, this aircraft cannot maintain level flight.' This was not strictly true but it wasn't the right time to give an aircraft systems lecture. 'We will be making a forced landing shortly.

'If you are not in the crash position with your head forward between your knees, adopt it now. Make sure your seatbelts are fastened tightly and that any children are also restrained in their seats.

'There is enough oxygen at this altitude so you no longer need the masks. Your flight attendants will assist you if you have problems.

'We have broadcast our difficulties and our position to the local authorities. Help is no doubt already on the way,' he lied.

Who was it that said, 'You don't find atheists in fox-holes'? Flemming couldn't remember but at that moment, even though he never considered himself a religious man, he could see the truth in it. He concluded the announcement. 'If any of you pray to God, now is the time to do it.'

There was no point doing the laconic pilot routine. He had just brought four hundred people through a gut-wrenching dive from 35 000 to 10 000 feet in a handful of

minutes. Perhaps a word about rescue – even if it wasn't true – and the reassurance that they were in God's hands, would do some good. He didn't know and he had run out of time to think about it. The moonlit jungle was rising up to kill them. It was time to land.

The mist that had caked Joe's window had melted. He wiped away the remaining droplets with the palm of his hand and looked outside. He was sickened by what he saw. The plane was flying in a large bowl ringed by mountains and lit by the moon. The peaks topped out above the aircraft's altitude. There was only one possible outcome. He'd listened to the captain's address and decided that the people at the front of the aircraft had reached the same conclusion about their fate. There were no lights below. There was no runway waiting for them. This was it. He peered out the window harder, trying to see exactly what they would be landing on. They were going to land weren't they? The captain had just said so. They weren't going to crash, surely? The window didn't allow him a view downwards. He was frightened, but he realised he had no control over anything that happened in his near future. A part of Joe's brain found that oddly comforting. It calmed him. There was absolutely nothing he could do to alter the situation. He just had to sit there and wait. He bent his head between his legs and breathed the warm sickly air rising from the vomit-soiled carpet under his feet – the kiss your arse goodbye position, he thought. A pain swelled in his chest as if an invisible hand was squeezing his heart. 'For Christ's sake, just get it over with,' he said to the god he rarely spoke with.

'I'm going to go for that ridge over in our ten o'clock,' shouted Flemming. Granger and Rivers agreed. From their

angle, it appeared to present more of a plateau, although it was night and appearances could be deceptive. Putting the plane down on a ridge would be a better option than a valley. Rescuers would more easily spot the wreckage, for one thing. And for another, a valley would inevitably end with a mountain, and slamming into a solid rock wall would be utterly catastrophic.

There was no argument. 'Luke, you've got the flaps and the undercarriage. Jenny, read off our airspeed. We're only going to get one go at this so let's do it by the numbers.' Flemming wanted to say he thought they'd been a good crew, but the best he could manage was a crooked smile.

It was possibly the most forbidding landscape Luke Granger had ever seen. The fact that he was about to set down a fully loaded 747 on it didn't improve his impression any.

The flight deck was hot and humid. It didn't take much to figure out that they probably had a large hole blown in the side of the aircraft. The engine must have exploded and taken part of the fuselage with it. It was possible that shrapnel from that explosion had wrecked their E&E Bay, taking out their communications and hydraulics in the process. Then Granger remembered what he thought was a fighter's deadly pass down the side of the 747. No, surely not . . . Was it possible? Part of Granger's mind knew they'd been attacked and shot down. Another part refused to believe it. Knowing the answer wouldn't help the situation any. He couldn't even radio anyone with his suspicions. The disquiet evaporated almost the instant it formed. There was too much demanding his attention.

Despite the tropical heat, the sweat on Luke's body was cold, and he realised grimly that he'd pissed himself.

Moonlight washed through a break in the clouds, revealing a lumpy tree canopy. Jungle. They were almost on top of the equator, so it wouldn't be anything else. Not a single reassuring light winked through the expanse below them.

The ridge Captain Flemming had pointed out was now lined up in plain view. Granger scanned the instruments and tried to focus on anything other than his impending death. Their hydraulics pressure was virtually nonexistent. At least the flaps were fully extended and the undercarriage had locked. That was something. With luck, they'd slide along gently after the gear tore off, eating up much of the plane's energy, coming to rest peacefully with no lives lost, held aloft by the waving arms of friendly palm trees.

Who was he kidding? thought Granger. Murderously steep gorges ran off from either side, beckoning. There was only one possible outcome.

Joe couldn't help himself. He'd heard the familiar whirr and bump of the undercarriage coming down and locking in place, and he managed to convince himself, briefly, that they were about to settle on a smooth runway. Then there was the sickening screech of grinding metal as the flaps lowered and the hope evaporated. The big 747 was flying with its nose high in the air. Joe had tested all the top flight sims; he knew the pilots were trying to slow the aircraft down so that it would arrive at its point of impact with the ground just as the lift under its wings gave out. The desire to know what they were about to land on gripped him again. He realised it might be the last thing he ever saw. He looked out and down and saw the tops of trees flashing by at alarming speed. 'Shiiiiiiit,' he said, throwing himself forward again into the crash position.

QF-1 slammed onto the ridge. The force of the impact fractured the fuselage behind the wings' trailing edge. The huge fin and tail section, split from the main body of the aircraft, was thrown high in the air. It began to spin like a child's toy as it fell, flinging chairs, people and luggage into the trees. It whirled down into a steep gorge where it shredded itself against volcanic rock like cheese against a grater.

The main body of the aircraft, now engulfed in a fireball, continued to plough through the jungle. A rock outcrop caught the leading edge of the port wing. The violence of the impact carved off the centre section of the fuselage. The remaining fuel in one of the wing tanks exploded, turning the centre section of the aircraft into burning shards of aluminium that rained down over the jungle.

The forward section of the fuselage spun into a small depression. Its mass combined with its speed, telescoping the nose in on itself. Flemming, Granger and Rivers were turned into paste.

Burning fuel caused small fires for a thousand metres around.

The savagery of the crash silenced the jungle. Smoke from the burning fires hung like a mist of death in the moist, pre-dawn air.

Raptor watched the 747 hit the ground. It didn't appear to be going very fast at all but it was difficult to make out any detail until the fireball lit the scene. The sight of the aircraft breaking up was gratifying and he congratulated himself on a job well done. He thumbed the Send button on his control column several times, broadcasting the

agreed code for a successful mission. Raptor noted the lat and long coordinates on his thigh-pad from the GPS. He lit his afterburners and set a course for Hasanuddin AFB.

NSA Pacific HQ, Helemanu, Oahu, Hawaii, 2050 Zulu, Tuesday, 28 April

The NSA is the world's most sophisticated eavesdropper. It keeps the airwaves safe for Uncle Sam, gathering information any way that it can, mostly through an extensive battery of antennae dishes scattered around the world. The dishes harvest the low frequency signals, the frequency range generally preferred by the world's military. If atmospheric conditions are right, these can bounce off the biggest dish of all, the earth's ionosphere. The higher frequency transmissions are trickier, the line-of-sight comms. To patrol this frequency range, the NSA deploys all manner of assets, including a flotilla of spy ships masquerading as ocean survey vessels and, of course, spy planes.

The NSA monitors most frequencies in the radio and microwave spectra around the clock; phone and Internet lines are also filtered. Even general phone communications are regularly sampled. The bottom line is, very little communication escapes the NSA, especially when attempts are made to hide it. If you're Milly chatting to Maude in the suburbs of Atlanta, Georgia, there's a good chance the NSA knows your gossip. If you're a Russian tank commander positioning assets around a Chechen enclave, you can guarantee it.